PINE VALLEY COAL LTD.

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May 16, 1997

Dr. Barry Ryan, Coal Geologist
Geological Survey Branch
Ministry of Employment & Investment
Energy & Mineral Division
Floor 5 - 1810 Blanshard St.
The Jack Davis Bldg.
Victoria, BC V8W 9N3

Dear Sir:

RE: Willow Creek Project - 1994 Exploration Program

As requested, please find enclosed the report for the Willow Creek Project 1994 Exploration Programme. The report contains 2 binders of material.

If you require further information, please do not hesitate to call the undersigned.

Yours truly,

Kevin T. James, P. Geo.
Senior Geologist
KTJ:jp

c.c. : Ms. Kim Stone - Via FAX:

Enclosure: Report (2 Binders)

WILLOW CREEK COAL PROJECT

N.E. B.C.

1994 COAL EXPLORATION

PINE RIVER AREA
LIARD MINING DIVISION
NTS 93 0/9

Latitude: 55° 36' North
Longitude: 122° 14' West

Owner :

Pine Valley Coal Ltd.

May 15, 1997

Submitted to :

The Ministry of Employment and Investment

Energy and Minerals Division

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SUMMARY

The Willow Creek Coal Project coal licenses are located in the Peace River District of northeast British Columbia, approximately 45 kilometres west of the town of Chetwynd. As of 1994, the property included 29 coal licenses, encompassing 8,600 hectares of low, rounded ridges and hills typical of the foothills belt. The project consists of three separate groupings of coal licenses which are identified as Pine Pass (Noman Creek), Falling Creek, and Willow Creek.

Access to the property area is excellent. B.C. Rail maintains a major transportation corridor directly alongside the property. Furthermore, Highway 97 (the John Hart Highway) and numerous secondary roads and trails provide direct access to, and within, the property.

The Willow Creek area has been the subject of numerous coal-exploration studies since the 1970's when the Japanese steel industry showed an interest in British Columbia coking coals. In 1980 / 81, Semper Resources / David Minerals Ltd. completed 42 trenches and 46 diamond drillholes, totalling 12,094 metres. This work identified a total resource-potential, down to 500 metres, of 73 million raw-coal tonnes. Subsequent to completion of the exploration study, Kilborn Engineering Ltd. completed an underground mine-feasibility study to produce about 600,000 tonnes product coal, destined for thermal coal markets.

Globaltex Industries Ltd. (Globaltex) acquired the Willow Creek coal licenses in the early 1990's and proceeded with a review of all previous information. The review identified the potential for coking-coal reserves in what was previously marketed as thermal coal.

Given the potential for coking-coal reserves, Globaltex proceeded with the 1994 exploration program in order to confirm their presence. A two-phase program was conducted which comprised a winter-drilling program and a summer bulk-sample drilling program. In total, 108 holes were completed, for a total length of about 4,000 metres. Four bulk drillcore samples were taken for detailed washability analyses and individual drillcore were recovered for coal-characterization studies.

The laboratory results confirmed the presence of medium-volatile coking coals in Seams 1, 2, 3, and 4. Low-volatile bituminous coals were identified in Seams 6, 7, and 8. These seams would traditionally be classified as non-coking coals.

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1.0 INTRODUCTION

In 1994, Globaltex Coal Corporation, acting as operator, conducted coal exploration on coal licenses held by Globaltex Industries Inc. The program primarily consisted of drilling 48 air rotary holes and 60 air rotary/core combination holes. The work was initiated to delineate the structural and stratigraphic setting, and to determine the coal quality characteristics of the major coal seams.

1.1 LOCATION AND ACCESS

The Willow Creek Coal Properties are located in the Peace River District of Northeast British Columbia. They are situated adjacent to the Pine River approximately 50 km west of the town of Chetwynd. The properties are located on the NTS map 93-0-9. The approximate coordinates are: 55° 36' North latitude; 122° 14' West longitude. Figure 1 illustrates the property location within the Province of British Columbia.

The primary road access to the general area is via the John Hart Highway (Highway 97); an all weather highway which connects the Peace River District with the central interior city of Prince George, B.C. Ground access is provided by secondary and tertiary roads which branch off from Highway 97. Logging in the early 90's created an efficient network of forestry roads which facilitates the ground transportation to and from the property.

B.C. Rail operates a rail line through the Pine River valley to service the Peace River District . The rail provides direct access to the port of Vancouver, B.C. or indirect access via Canadian National Railway at Prince George, to the Ridley Island Coal Port at Prince Rupert, B.C.

The Peace River District is serviced by daily commercial airline flights to the cities of Dawson Creek & Fort St. John. These services have respective road distances to the Willow Creek properties of roughly 150 and 210 km's.

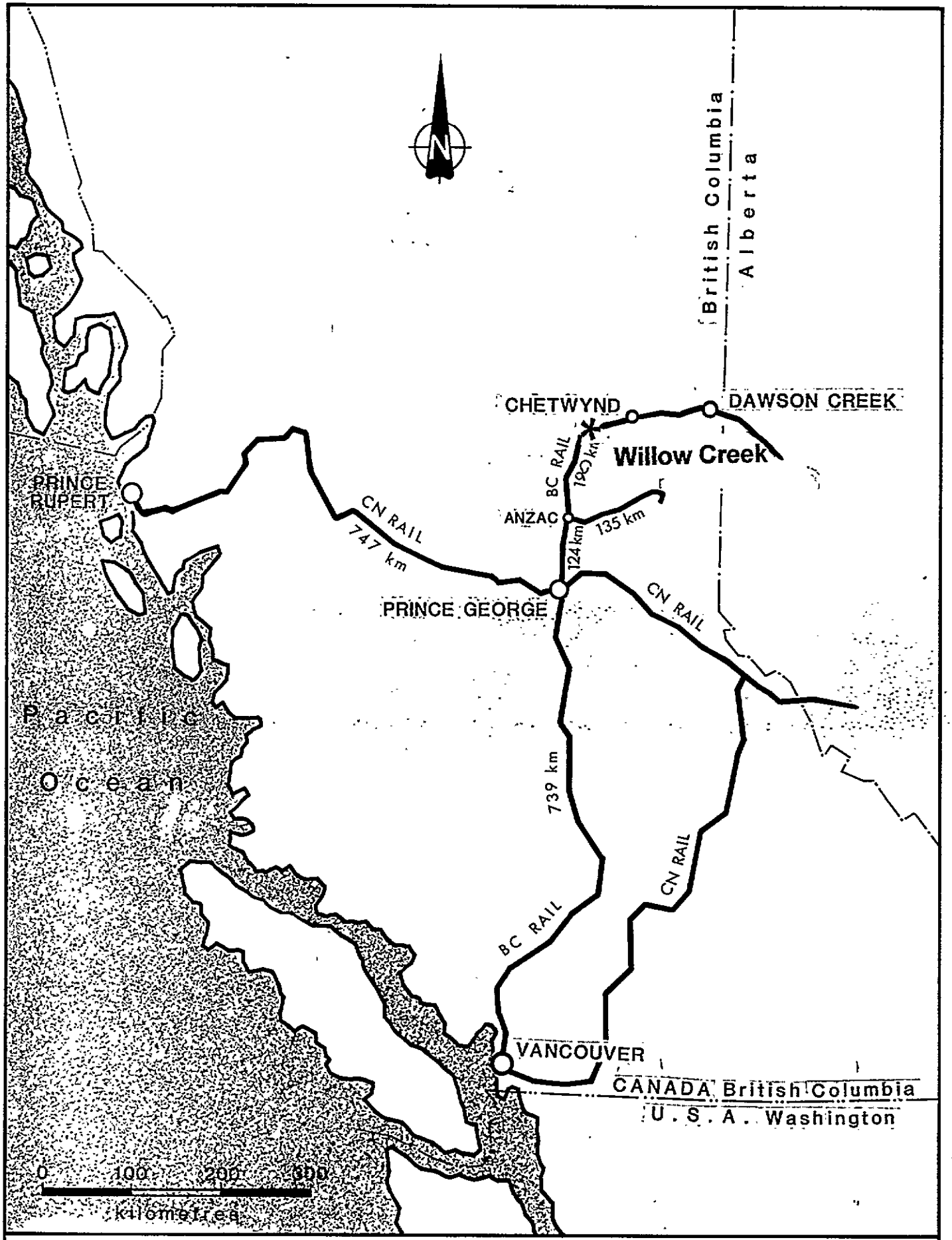
1.2 TOPOGRAPHY AND VEGETATION

The Willow Creek coal licenses cover the eastern foothills of the Rocky Mountains. The area is characterized by relatively low, rounded, northwest-southwest trending ridges and valleys dissected by the northeast 1.5 km Pine River Valley. Elevations range from 625m in the valley to 1400m along the upper ridges.

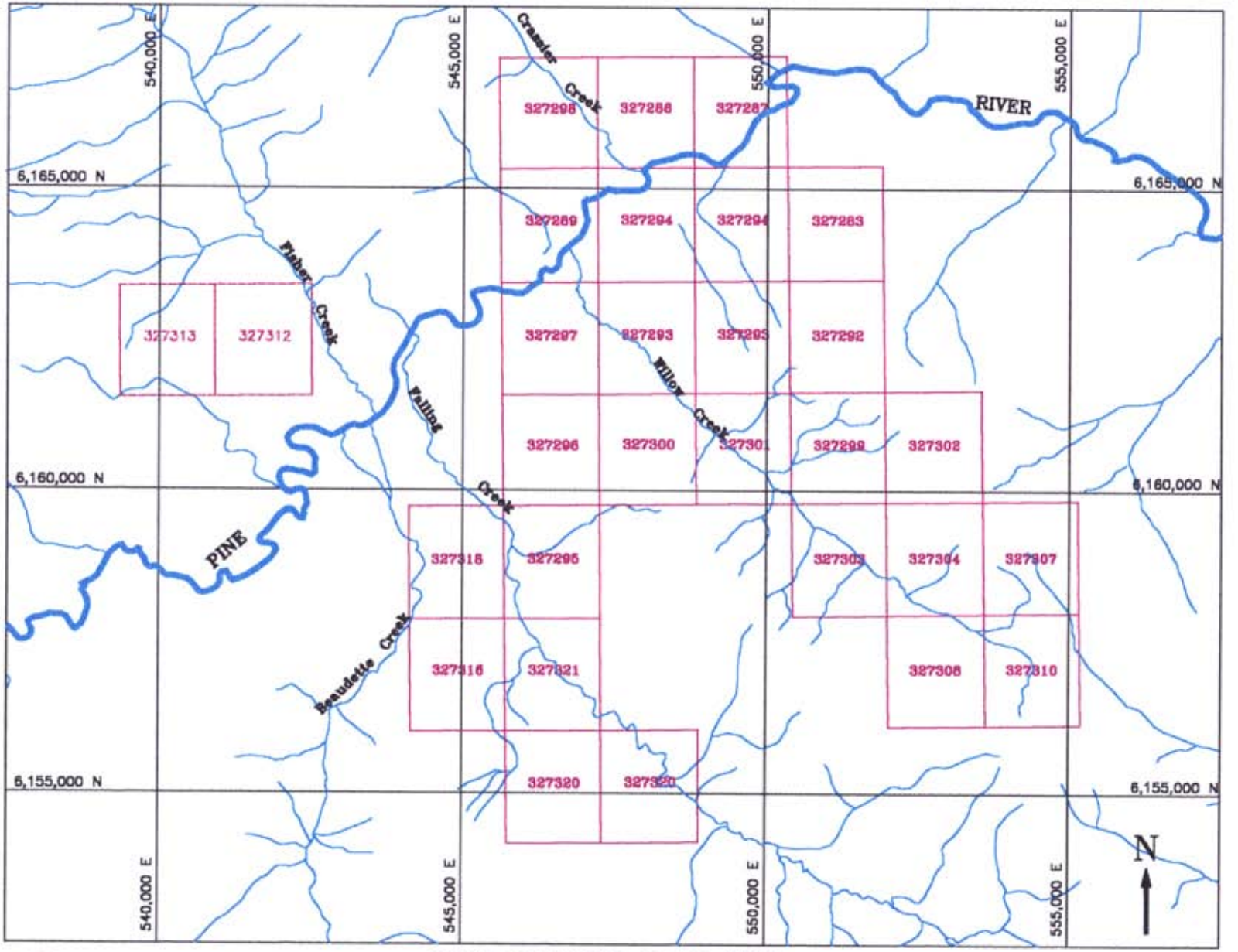
The vegetation cover is typical of an open forest made up of jackpines & minor spruce. Willows and stands of poplars are common in the low lying areas.

1.3 PROPERTY

In 1994, Globaltex Industries Inc. held tenure on twenty nine (29) Coal Licenses collectively referred to as the Willow Creek Coal Property. The coal licenses cover approximately 8600 hectares located in the Peace River Land District of northeastern British Columbia. Figure 2 illustrates the general layout of the licenses, and Table 1 provides a summary description.



GENERAL LOCATION | **Figure 1**



PINE VALLEY COAL LTD.

Willow Creek Coal Project

COAL LICENCES

Figure 2

Table 1:

Coal Licenses

		PNG Description		
Coal License No.	Land District	Map Reference	Block	Units
327300	Peace River	930/9	G	19,10,19,20
327301	Peace River	930/9	G	7,8,17,18
327302	Peace River	930/9	G	3,4,13,14
327303	Peace River	930/9	B	85,86,95,96
327304	Peace River	930/9	B	85,86,95,96
327307	Peace River	930/9	B	81,82,91,92
327308	Peace River	930/9	B	63,64,73,74
327310	Peace River	930/9	B	61,62,71,72
327312	Peace River	930/9	F	27,28,37,38
327313	Peace River	930/9	F	29,30,39,40
327314	Peace River	930/9	B	49,50,59,60
327316	Peace River	930/9	C	63,64,73,74
327318	Peace River	930/9	C	83,84,93,94
327320	Peace River	930/9	C	41,42,51,52
327321	Peace River	930/9	C	61,62,71,72
327295	Peace River	930/9	C	81,82,91,92
327296	Peace River	930/9	F	1,2,11,12
327297	Peace River	930/9	F	21,22,31,32
327298	Peace River	930/9	F	61,62,71,72
327299	Peace River	930/9	G	5,6,15,16
327292	Peace River	930/9	G	25,26,35,36
327293	Peace River	930/9	G	27,28,37,38
327294	Peace River	930/9	G	47,48,57,58
327291	Peace River	930/9	G	29,30,39,40
327289	Peace River	930/9	F	41,42,51,52
327290	Peace River	930/9	G	49,50,59,60
327287	Peace River	930/9	G	67,68,77,78
327286	Peace River	930/9	G	69,70,79,80
327283	Peace River	930/9	G	45,46,55,56

2.0 EXPLORATION

2.1 History

Coal was discovered in the Peace River District of British Columbia during Alexander MacKenzie's overland journey to the Pacific some 200 years ago. The first coal licenses were granted in 1908, but owing to the remoteness of the area, it was not until the 1940's that the coals were exploited. Construction of the Alaska Highway probably triggered the development of 3 small mines near the present day W.A.C. Bennet hydroelectric dam. The coal seams were located in the Gething Formation- named after the principal operator of the mines, the Gething family. These coal mines had a rather brief history, as major gas and oil fields discovered in the northeast replaced coal in the market.

From 1946 to 1951, the Coal Division of the B.C. Department of Lands and Forests conducted coal exploration in the Pine River Area of the Peace River District in anticipation of the construction of another major rail route through the Rockies. The work concentrated on three areas: Willow Creek, Noman Creek (now referred to as Pine Pass Coal Licenses), and Hasler Creek. Based upon geological mapping, trenching, and 81 diamond drillholes totalling 14,829 metres, the government program estimated the respective tonnage potential of the three areas at 20.9 million tonnes, 8.2 million tonnes, and 7.3 million tonnes. The reserve estimates were based on reserves at a thickness cut-off of 1.2 meters.

As a result of the work completed by the British Columbia Department of Lands and Forests in the 1940's and 50's, which included trenching and 39 diamond drillholes totalling approximately 7,147 metres, the Willow Creek area has been the subject of various exploration programs in the 1970 and the 80's. In 1973, the Pine Pass Coal Company drilled over 500 metres in 5 diamond holes at the headwaters of Willow and Johnson creeks. Although the drilling confirmed the presence of the thick coal seams in the Gething Formation at this locale, the perceived structural and stratigraphic problems precluded further drilling in the area. In addition to the Pine Pass Coal Company, the only company to drill test the Gething Formation in the Willow Creek area was Semper Resources / David Minerals in 1980 and 1981. Crows Nest Resources Ltd. (Shell Canada Resources), Pan Ocean Oils Ltd. and Norcen Energy Resources Ltd. all looked at the area in the 70's and 80's, but only reconnaissance style geological mapping was completed.

The Semper Resources/ David Minerals Ltd. exploration program at Willow Creek comprised 42 trenches totalling over 800 metres and 46 diamond drillholes totalling 12,094 metres. The total resource potential for the project was estimated at 72,562,425 tonnes which were broken down as follows:

Measured Resources: 46,613,190 tonnes
Indicated Resources: 12,927,759 tonnes
Inferred Resources: 13,021,476 tonnes

In 1981, Semper Resources amalgamated with David Minerals Ltd. to further develop the Willow Creek Project. Subsequent to this, Kilborn Engineering Ltd. was commissioned to complete an underground mine engineering feasibility study. As a result, environmental studies were completed and the project was progressed to Stage 2 of the provincial government's mine development process. Subsequent to the feasibility study, David Minerals Ltd. encountered financial problems and lost control of the licenses. Sometime in the early 1990's, Globaltex Industries Inc. acquired the coal licenses previously held by David Minerals Ltd.

2.2 1994 Exploration Program

During the 1980 and 1981 drilling programs, the coal quality work focused almost exclusively on proximate analysis of the raw coal. No clean coal analysis, washability, petrography, or fluidity tests, to name but a few, were completed. As a result, limited data was available for the marketing of a clean coal product. The 1994 exploration program was undertaken to provide more detailed information on the coal quality characteristics (e.g.: washability, petrography, and clean coal proximate analysis) for eventual coal marketing efforts. Furthermore, several stratigraphic and structural configurations located within the license area required more delineation through drilling.

2.2.1 Objectives

To accomplish both the coal quality and structural/stratigraphic objectives, a two phased program was initiated. The first phase, completed during February to April, 1994, primarily focused on the geology, with some spot core sampling. The second phase, completed during June to August, 1994, focused on coring selected sites to provide for bulk sampling from the major seams. Table 2 summarizes the two work phases, and Figure 3 illustrates the locations of the combined drilling phases.

TABLE 2
1994 EXPLORATION SUMMARY

	Winter	Summer
Access		
New drill trail	2.7 kms	0
Open Holes		
# of Holes	37	9
Total Length (m)	2187	321
Spot Core Holes		
# of Holes	2	60
Total Length (m)	56	1519
All Holes		
# of Holes	39	69
Total Length (m)	2243	1840

2.2.2 Access

A series of forestry roads were build in the early 1990's when clearcut logging took place in the area. These roads provide the main access from Highway 97 into the exploration area. Ken Murfitt Contracting from Chetwynd was hired to repair and construct drill trails, prepare drill sites, and provide general support for drilling. A TD20C, equivalent to a D6/7 dozer, was used for the majority of the work. The length of new drill trail constructed totalled 2.7 km's.

2.2.3 Control Survey

The original control survey performed by McElhaney & Associates in 1981 was located and used as the survey control grid for the 1994 Exploration Program. During the first and second phases, Stables, Tryon & Associates and Canyon Contracting, respectively, tied into this control to establish the locations for 1994 drillholes. Both survey phases included the placement of additional survey control points in order to establish the drillhole locations. A map depicting the additional survey control is included in Appendix 1.3.

3.0 DRILLING

3.1 First Phase (Winter)

The first phase (winter) drilling was contracted to Westrail Construction Ltd., Delta, B.C. The drill utilized was a track mounted D40K blasthole rig converted to a reverse circulation exploration drill. The open hole drill hole diameter was 6 1/2 inches. Core samples were taken using a Christenson 3 inch core barrel with a carbide coring bit. Coring was completed using the standard method of drilling (e.g.: no wireline). Table 3 provides a brief summary of the drilling completed by Westrail. For a more complete summary, refer to Appendix 1.2.

3.2 Second Phase (Summer)

The second phase (summer) drilling was contracted to Nielsen Drilling Enterprises Ltd., Hinton, Alberta. The drill utilized was a wheel-mounted SCHRAMM air-rotary waterwell rig converted to an exploration drill. The drill was equipped with a rod carousel containing 6 - 25 foot HQ wireline rods capable of drilling to 50 metre depths. This drill was contracted to recover drill core for bulk sample studies. In addition, 9 exploration holes were drilled to delineate the presence of seams 1, 4, A, 5, 6, 7, and 8. The open hole drill hole diameter was 6 1/2 inches, and core samples were taken using a Christenson 3 inch core barrel with a carbide/diamond combination coring bit. Coring was completed using compressed air as the coring medium, with minimal water injection. All coring utilized wireline methods. Table 4 provides a brief summary of the drilling completed by Nielsen. For a more complete summary, refer to Appendix 1.2.

3.3 Borehole Geophysics

During the first phase (winter) program, Century Geophysical Ltd. of Calgary, Alberta, was contracted to complete the borehole geophysics. Where good hole conditions were available, the following suite of geophysical logs were obtained:

- Gamma Ray
- Neutron
- Density
- Caliper
- Directional Survey

In the case of poor hole conditions, the gamma-neutron survey was completed through the drill rods.

During second phase (summer) program, a portable "Mt. Sopris Logging Unit" was rented from Colog Inc., Denver, Colorado, USA, to provide gamma logs from the boreholes. Gamma surveys were carried out on holes WRH94042 through WRH94048 only. None of the bulk sample holes, WSH94001 through WSH94008, were geophysically logged.

Appendix 3 contains copies of the completed 1994 borehole geophysical logs.

Table 3

SUMMARY OF THE WINTER DRILLING

Drillhole-ID	Length Drilled Metres	Comments
WRH 94001	73.2	
WRH 94002	91.4	
WRH 94003	41.0	
WRH 94004	43.0	
WRH 94005	85.3	
WRH 94006	12.0	
WRH 94007	22.0	
WRH 94008	28.3	
WRH 94009	19.5	
WRH 94010	45.7	
WRH 94011	40.0	
WRH 94012	41.0	
WRH 94013	41.0	
WRH 94014	80.0	
WRH 94015	54.0	
WRH 94016	24.3	
WRH 94017C	33.5	spot coring of 4 seam
WRH 94018	36.5	
WRH 94018A	18.2	
WRH 94019	19.0	
WRH 94020	128.0	
WRH 94021	125.0	
WRH 94022	103.6	
WRH 94023	59.0	
WRH 94024	130.0	
WRH 94025	42.6	
WRH 94026	79.2	
WRH 94027	42.6	
WRH 94028	70.0	
WRH 94029	97.5	
WRH 94030	109.0	
WRH 94031	73.1	
WRH 94032	79.2	
WRH 94033	61.0	
WRH 94034C	33.5	spot coring of 7 seam
WRH 94035	25.0	
WRH 94037	22.8	
WRH 94038	29.0	
WRH 94039	19.2	
Total:	**39 holes**	**2243 meters**

Table 4

SUMMARY OF SUMMER DRILLING

Date	Seam	Hole	Length (m)	Cored (m)	Sample-Id
May 31	7	WSH94001A	26.5	9.3	7 Bulk Sample
June 3	7	WSH94001B	26.6	8.3	7 Bulk Sample
June 4	7	WSH94001C	26.6	9.0	7 Bulk Sample
June 5,10	7	WSH94001D	26.1	9.5	7 Bulk Sample
June 11	7	WSH94001E	26.8	9.0	7 Bulk Sample
June 15	6	WSH94002A	22.0	0.0	Profile hole
June 18,22	6	WSH94002B	20.6	4.9	6-1 Bulk Sample
June 22,23	6	WSH94002C	21.0	4.1	6-1 Bulk Sample
June 23	6	WSH94002D	22.1	4.0	6-1 Bulk Sample
June 23,24	6	WSH94002E	21.6	4.1	6-1 Bulk Sample
June 24	6	WSH94002F	22.2	4.2	6-1 Bulk Sample
June 24	6	WSH94002G	19.4	3.9	6-1 Bulk Sample
June 24	6	WSH94002H	19.3	3.2	6-1 Bulk Sample
June 24	6	WSH94002I	20.1	3.6	6-1 Bulk Sample
June 25	6	WSH94002J	20.6	3.6	6-1 Bulk Sample
June 25	6	WSH94002K	21.2	3.8	6-1 Bulk Sample
June 25	6	WSH94002L	21.4	3.8	6-1 Bulk Sample
June 26	6	WSH94002M	25.6	4.2	6-1 Bulk Sample
June 26	6	WSH94002N	24.3	4.6	6-1 Bulk Sample
June 26	6	WSH94002O	23.6	3.9	6-1 Bulk Sample
June 26	6	WSH94002P	23.0	4.1	6-1 Bulk Sample
June 27	6	WSH94003A	23.5	0.0	Profile Hole
June 27	6	WSH94003B	21.6	5.6	6-2 Bulk Sample
June 27	6	WSH94003C	21.6	5.3	6-2 Bulk Sample
June 27	6	WSH94003D	21.0	3.8	6-2 Bulk Sample
June 27	6	WSH94003E	21.5	4.0	6-2 Bulk Sample
June 28	6	WSH94003F	20.7	4.0	6-2 Bulk Sample
June 15	4-0	WSH94004A	22.0	3.9	16255B
June 15	4-0	WSH94004B	23.4	3.9	16256B
June 28	1-0	WSH94005	17.5	3.7	16266B, 16267B
June 29	2	WSH94006	33.7	10.8	16268B, 16270B
June 29	3	WSH94006			16273B, 16275B
June 30	1	WSH94007A	18.0	6.5	1-0 Bulk Sample
July 7	1	WSH94007B	17.3	7.8	1-0 Bulk Sample
July 9	1	WSH94007C	17.5	8.0	1-0 Bulk Sample
July 10	1	WSH94007D	17.5	7.8	1-0 Bulk Sample
July 11	1	WSH94007E	18.5	7.3	1-0 Bulk Sample
July 11	1	WSH94007F	18.8	7.7	1-0 Bulk Sample
July 11	1	WSH94007G	21.7	6.8	1-0 Bulk Sample
July 11	1	WSH94007H	20.9	7.7	1-0 Bulk Sample
July 12	1-0	WSH94007I	18.5	3.2	1-0 Bulk Sample

Table 4 -
Continued

SUMMARY OF SUMMER DRILLING

Date	Seam	Hole	Length	Cored	Sample-Id
July 13	1-0	WSH94007J	17.1	3.2	1-0 Bulk Sample
June 29	4	WSH94008A	37.4	10.4	4 Bulk Sample
June 30	4	WSH94008B	21.6	0.0	Not sampled
July 13	4	WSH94008C	39.6	8.5	4 Bulk Sample
July 13	4	WSH94008D	37.4	8.5	4 Bulk Sample
July 13	4	WSH94008E	38.5	8.5	4 Bulk Sample
July 14	4	WSH94008F	34.6	8.5	4 Bulk Sample
July 14	4	WSH94008G	34.5	8.2	4 Bulk Sample
July 14	4	WSH94008H	40.1	8.2	4 Bulk Sample
July 15	4	WSH94008I	37.5	8.1	4 Bulk Sample
July 15	4	WSH94008J	35.4	8.1	4 Bulk Sample
July 28	4	WSH94008K	32.5	9.1	4 Bulk Sample
July 28	4	WSH94008L	32.0	8.7	4 Bulk Sample
July 29	4	WSH94008M	30.8	7.8	4 Bulk Sample
July 29	4	WSH94008N	32.9	8.0	4 Bulk Sample
July 29	4	WSH94008O	34.9	8.0	4 Bulk Sample
July 30	4	WSH94008P	31.9	8.1	4 Bulk Sample
July 30	4	WSH94008Q	33.4	8.1	4 Bulk Sample
July 31	4	WSH94008R	28.8	8.3	4 Bulk Sample
July 31	1,2,3	WRH94040	45		
July 31	OVB	WRH94041	17		
Aug 2	A	WRH94042	40		
Aug 1	A	WRH94043	40		
Aug 2	A	WRH94044	47		
Aug 3	A	WRH94045	40		
Aug 4	6	WRH94046	47	3.7	No Recovery
Aug 3	7	WRH94047C	45	5.7	16286B
Aug 3	8	WRH94047C		4.3	16288B, 16289B
Aug 4		WRH94048	45		

4.0 COAL QUALITY

4.1. Sampling Procedures

The core recovered from the spot core and bulk core phases of the program were visually logged. Core logging involved the recording of basic lithologies, sedimentary structures, fossiliferous zones, and structural features such as bedding and fractures. However, as the core was primarily from targeted coal seams, only the coal seams were logged. The seams, including roof and floor characteristics, were logged in detail with close reference to borehole geophysical logs from the same, or adjacent, drillholes. Columnar sections (seam profiles) were prepared from the written core logs for detailed sampling of the seam. Based upon the examination of the seam profile, samples of coal from the drill core were taken in geological increments and shipped to Loring Laboratories Ltd. for analyses.

In the case of the bulk sample coring completed during the second phase, a single representative seam profile was prepared per bulk sample site rather than profiles for each hole. As the holes were clustered so closely, only a single sample profile was deemed necessary. From the seam profile, samples from the bulk sample core holes were sampled immediately from the split core tube and placed in a large bulk sample bag. As a result, all the core from all holes per bulk-sample site were mixed together in a single bulk maxi-bag to form a bulk sample.

In addition to the core samples, some selected chip samples were taken during the open hole drilling to test for basic coal characteristics.

4.2 Sample Identification and Location

The following coal quality tables can be cross-referenced with the Drillhole Summaries located in Appendix 1.1 for details on sample identifications and locations. Furthermore, Figure 3 illustrates the drillhole locations on plan view. In the case of the bulk sample holes, a single location per bulk sample is shown for clarity. Appendix 2 contains the complete laboratory analyses for samples completed during 1994.

4.3 Proximate Analysis

The raw coal ash content of the coal seams sampled during 1994 range from 5.12 % to 29.61 %, as shown on Table 5. Generally, most of samples contain less than 15 % ash contents and are considered low raw ash seams.

Based upon clean coal composite studies and simple float sink data, it is clear that the Gething coals at Willow Creek clean to low ash contents. As shown in Table 6, these low clean ash values provide a comparative view of the rank of the coals, based upon volatile matter contents. Clearly, the rank of the coals increases from medium volatile bituminous at Seam 1 to low volatile bituminous at Seam 8. Furthermore, the upper seams (Seams 1 to 4) can be tentatively grouped as medium volatile bituminous coals, and the lower seams (Seams 6 to 8) can be identified as low-volatile bituminous coals.

Table 5

1994 Drill Core Samples
Raw Coal
Proximate Analysis
Air Dried Basis

Drillhole	Seam	H2O %	Ash %	Volatile Matter (%)	Fixed Carbon(%)
WSH94005	1	0.67	6.47	21.01	71.85
WSH94007	1	0.90	7.21	24.06	67.83
WSH94006	2	0.60	29.61	18.46	51.33
WSH94006	3	0.60	10.49	19.67	69.24
WRH94017C	4	0.90	10.12	21.11	67.87
WSH94004	4	0.83	6.29	19.39	73.49
WSH94008	4	1.14	17.70	20.00	61.16
WSH94002	6	1.36	5.12	14.75	78.77
WSH94003	6	1.64	6.31	14.64	77.41
WSH94001	7	1.27	16.07	14.60	68.06
WRH94034C	7	0.89	13.11	15.69	70.31
WRH94047C	7	0.61	14.51	14.51	70.37
WRH94047C	8	0.91	9.08	14.00	76.01

Table 6

1994 Drill Core Samples
Clean Coal
Proximate Analysis
Air Dried Basis

Drillhole	Seam	H2O %	Ash %	Volatile Matter (%)	Fixed Carbon(%)
WSH94005	1	0.83	2.96	21.63	74.58 *
WSH94007	1	0.68	4.87	23.65	70.80 **
WSH94006	2	0.73	5.29	20.15	73.83 *
WSH94006	3	0.84	4.98	20.14	74.04 *
WRH94017C	4	0.21	4.91	20.28	74.60 **
WSH94004	4	1.09	2.48	20.05	76.38 *
WSH94008	4	1.01	7.98	19.55	71.46 **
WSH94003	6	1.01	3.76	14.00	81.23 **
WSH94001	7	0.81	6.90	16.51	75.78 **
WRH94034C	7	1.06	4.27	15.19	79.48 **
WRH94047C	7	0.63	5.39	14.60	79.38 *
WRH94047C	8	0.58	3.13	13.97	82.32 *

* - Analysis from 1.60 SG Float
** - Analysis from Clean Coal Composite

4.4 Sulphur Content

As shown on the following table, the total sulphur contents for the coal seams are generally less than 0.70 percent on a raw coal basis, with the exception of 8 seam. The majority of the sulphur in the coal resides in the organic component. Pyritic sulphur is generally low with the exception of 2 and 8 seams where the pyritic component makes up over 0.20 percent. In all seams, the sulphate form sulphur is considered negligible.

Table 7

1994 Drill Core Samples
Raw Coal
Forms of Sulphur
Air Dried Basis

Drillhole	Seam	Total %	Pyritic %	SO4 %	Organic %
WSH94007	1	0.70	0.15	<0.01	0.55
WSH94005	1	0.45	0.06	<0.01	0.39
WSH94006	2	0.48	0.27	0.01	0.20
WSH94006	3	0.46	0.05	<0.01	0.41
WSH94004	4	0.60	0.12	0.03	0.45
WSH94008	4	0.44	0.06	<0.01	0.38
WSH94003	6	0.53	0.03	<0.01	0.50
WRH94034C	7	0.55	0.05	0.02	0.48
WSH94001	7	0.61	0.07	<0.01	0.54
WSH94047C	7	0.66	0.02	<0.01	0.64
WSH94047C	8	1.02	0.24	<0.01	0.78

4.5 Ash Analyses

Based upon the mineral analysis shown on Table 8, the upper seams (1 & 4) have higher base/acid ratios than the lower seams (6 and 7). Seam 1 and Seam 4 have respective ratios of 0.29 and 0.21 compared to respective ratios of 0.08 and 0.09 for Seam 6 and Seam 7. Hence, the upper seams should represent coals with higher ash slagging potential. However, upon reviewing the ash fusion data presented on Table 9, only partial confirmation of the slagging potentials indicated from Table 8 is evident. Seam 1-0 shows potential for poor slagging performance (and Seam 4 shows moderate slagging potential). Seam 6 shows no evident slagging problem and Seam 7 ash fusion results are somewhat ambiguous. This ambiguity may result from the extremely low-ash coal samples used for the ash-fusion tests.

Table 8

1994 Drill Core Samples
Clean Coal

Mineral Analysis

Drillhole	Seam	SiO2 %	Al2O3 %	TiO2 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	P2O5 %	SO3 %
					Undef						
WSH94007	1-0	50.36	18.52	0.70	12.44	3.81	2.17	1.32	0.82	0.61	4.06	5.19
WSH94008	4	55.82	19.28	0.70	9.24	2.87	1.34	0.92	1.33	0.63	2.36	5.51
WSH94003	6	64.68	20.41	0.86	1.43	2.41	0.36	1.13	1.20	1.48	0.85	5.19
WSH94001	7	68.40	18.52	0.65	2.90	1.29	0.83	0.66	2.11	0.32	0.90	3.42

Table 9

1994 Drill Core Samples
Clean Coal

Ash Fusion

Drillhole	Seam	Reducing Atmosphere Initial (C)	Soften (C)	Hemisph (C)	Fluid (C)
WSH94007	1-0	1126	1186	1234	1305
WRH94017C	4	1286	1410	1452+	1452+
WSH94008	4	1265	1292	1326	1452+
WSH94003	6	1394	1429	1437	1452+
WRH94034C	7	1271	1368	1452+	1452+
WSH94001	7	1131	1342	1371	1452+

4.6 Free Swelling Index

As shown on Table 10, the Free Swelling Index (FSI) for Seams 1 to 8 have an FSI range from 0 to 8.5. The lower seams (Seams 6 to 8) have a FSI range from 0 to 1.5, and the upper seams (Seams 1 to 4) have a range from 2.5 to 8.5. Clearly, the upper seams appear to have significantly more potential as coking coals than the lower seams.

Table 10

Free Swelling Index
Air Dried Basis

Drillhole	Seam	H2O %	Ash %	FSI
WSH94005	1	0.83	2.96	2.5 *
WSH94007	1	0.68	4.87	8.5 **
WSH94006	2	0.73	5.29	3.5 *
WSH94006	3	0.84	4.98	4.0 *
WRH94017C	4	0.21	4.91	3.0 **
WSH94004	4	1.09	2.48	3.0 *
WSH94008	4	1.01	7.98	4.0 **
WSH94003	6	1.01	3.76	0.0 **
WSH94001	7	0.81	6.90	0.5 **
WRH94034C	7	1.06	4.27	0.5 **
WRH94047C	7	0.63	5.39	1.5 *
WRH94047C	8	0.58	3.13	1.0 *

* - Analysis from 1.60 SG Float
** - Analysis from Clean Coal Composite

4.7 Other Tests

In addition to the above tests, selected petrographic analyses were completed and can be found in Appendix 2.8 and 2.9. Furthermore, washability studies, size analysis, attrition studies, and a Coal Carbonization study were completed. These analyses are presented in Appendix 2.

5.0 CONCLUSIONS

The 1994 Exploration Program confirmed the presence of medium-volatile bituminous coals with potential for metallurgical coal markets.

6.0 REFERENCES

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7.0 EXPENDITURES

WILLOW CREEK COAL PROJECT 1994 PROGRAM COST SUMMARY	
ITEM DESCRIPTION	PROGRAM TOTAL
SUPERVISION	
Geologist	40480
ACCESS, DRILLSITE & SUPPORT	
Ken Murfitt Contracting, Chetwynd, BC	45141
DRILLING	
Westrail Construction Ltd., Delta, BC	36775
Neilsen Drilling Enterprises Ltd.	79545
BOREHOLE GEOPHYSICS	
Century Geophysical Corporation	13171
Colog, Inc, Golden, Colorado, USA	2452
TRAVEL & ACCOMODATION	
Air	2792
Hotel	3690
SURVEY	
Canyon Contracting, Hudson's Hope , BC	9690
Stables, Tryon & Associates, Dawson Creek, BC	2333
Estlin Helicopter's	2920
EQUIPMENT RENTALS	
4X4 Truck	12852
TOPOGRAPHIC SURVEY	
Orthoshop	13048
COAL ANALYSES	
Analytical & Wash: Loring Laboratories Ltd., Calgary, Alta	22470
Coke Oven Tests: UEC	3853
Petrography: K. DeVanney	1176
Shipping	2062
Bulk Sample Maxi bags	749
TOTAL	295198

APPENDIX 1

DRILLHOLES

Appendix 1.1

1994 Drillhole

UTM Locations

1994 DRILLHOLE

UTM Locations

Drillhole	Northing (m)	Easting (m)	Elevation (m)
WRH94001	6163264.98	548977.23	818.68
WRH94002	6163313.08	549045.14	819.83
WRH94003	6163356.49	549094.07	810.09
WRH94004	6163353.68	549142.81	800.38
WRH94005	6163491.66	549220.45	815.34
WRH94006	6163682.04	549396.45	821.53
WRH94007	6163691.10	549401.80	822.48
WRH94008	6163701.64	549413.40	824.16
WRH94009	6163709.72	549421.48	823.80
WRH94010	6163776.03	549471.68	816.36
WRH94011	6163781.88	549496.13	812.28
WRH94012	6163785.26	549508.13	809.61
WRH94013	6164118.69	549248.60	750.66
WRH94014	6164096.62	549223.15	751.24
WRH94015	6164021.78	549156.74	745.92
WRH94016	6164116.74	549250.28	751.02
WRH94017C	6164026.83	549197.03	754.05
WRH94018	6164280.90	549162.01	719.44
WRH94018A	6164344.28	549222.54	711.31
WRH94019	6164198.56	548602.52	657.80
WRH94020	6161995.56	549989.05	1092.58
WRH94021	6162042.04	550045.29	1107.78
WRH94022	6162069.14	550069.04	1110.41
WRH94023	6162132.86	550126.30	1109.20
WRH94024	6161998.58	549993.06	1093.59
WRH94025	6161911.94	549917.95	1100.60
WRH94026	6162499.34	549379.39	1063.97
WRH94027	6162117.40	549547.22	1123.26
WRH94028	6162145.07	549580.69	1119.10
WRH94029	6162177.96	549616.09	1116.17
WRH94030	6162647.84	549981.10	1095.25
WRH94031	6162605.13	549966.22	1090.90
WRH94032	6162568.14	549949.78	1087.77
WRH94033	6162523.90	549935.11	1082.06
WRH94034C	6161914.61	549911.52	1100.67
WRH94035	6161911.35	549914.91	1100.60
WRH94037	6162240.29	550225.97	1113.76
WRH94038	6162378.00	550247.38	1116.51
WRH94039	6162027.60	549868.57	1105.01
WRH94040	6164464.48	549018.08	689.07
WRH94041	6164416.56	548965.71	684.97
WRH94042	6164145.11	548764.41	699.00
WRH94043	6164044.17	548921.30	727.36
WRH94044	6164020.41	548894.84	725.54
WRH94045	6164257.63	548693.61	663.85
WRH94046	6164185.78	548504.46	644.96
WRH94047C	6164136.28	548468.31	641.36
WRH94048	6164023.75	548450.92	635.88
WSH94001	6161936.87	549890.74	1101.95
WSH94002	6162354.59	549504.20	1093.14
WSH94003	6162213.41	549664.43	1109.25
WSH94004A	6162247.57	550232.59	1113.50
WSH94004B	6162246.32	550231.41	1113.50
WSH94005	6162339.29	550327.90	1121.00
WSH94006	6162324.63	550307.36	1119.40
WSH94007	6164122.91	549246.56	751.00
WSH94008	6164031.05	549200.37	754.00

Appendix 1.2

Drillhole Summaries

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94001	6163264.98	548977.23	818.68	73.20	245	-62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.60	0.60
8-1	2.70	3.25	0.55
8-0	3.95	5.05	1.10
9-0	45.75	46.50	0.75

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94002	6163313.08	549045.14	819.83	91.40	233	-62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
COAL	6.85	7.10	0.25
COAL	13.85	14.35	0.50
7-3	20.30	21.10	0.80
7-0	29.70	30.35	0.65
7-0.2	30.90	31.30	0.40
7-2.1	40.35	41.15	0.80
7-2	43.00	43.00	0.00
8-1	57.70	58.30	0.60
8-0	58.80	60.10	1.30

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94003	6163356.49	549094.07	810.09	41.00	225	-60

Seam_ID	From	To	Interval
OVB	0.00	0.80	0.80
6-0	4.20	5.30	1.10
6-0.2	5.80	6.65	0.85
6-2	11.00	11.60	0.60
6-4	18.85	19.45	0.60
COAL	29.25	29.75	0.50

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94004	6163353.68	549142.81	800.38	43.00	225	-60

Seam_ID	From	To	Interval
OVB	0.00	0.50	0.50
5-8	6.20	6.30	0.10
6-0	17.15	18.45	1.30
6-0.2	18.80	19.75	0.95
6-2	23.70	24.30	0.60
6-4	32.70	33.35	0.65

Hole_ID	Northing	Easting	Elevation	Length	Azimuth	Angle
WRH94005	6163491.66	549220.45	815.34	85.30	256	-63
	(m)	(m)	(m)	(m)	(degrees)	(deg)

Seam_ID	From	To	Interval
OVB	0.00	1.20	1.20
A-3	7.55	8.45	0.90
A-1	8.85	10.10	1.25
A-0.1	18.70	19.05	0.35
A-0	19.15	20.45	1.30
A-2	20.85	21.80	0.95

Hole_ID	Northing	Easting	Elevation	Length	Azimuth	Angle
	(m)	(m)	(m)	(m)	(degrees)	(deg)
WRH94006	6163682.04	549396.45		821.53	12.00	220 -63

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.50	0.50
4-1	1.75	2.80	1.05
4-0	5.80	7.80	2.00
4-2	8.80	10.55	1.75

Hole_ID	Northing	Easting	Elevation	Length	Azimuth	Angle
	(m)	(m)	(m)	(m)	(degrees)	(deg)
WRH94007	6163691.10	549401.80		822.48	22.00	224 -62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.20	1.20
4-1.1	5.90	6.55	0.65
4-1	9.15	10.15	1.00
4-0	12.85	14.85	2.00
4-2	15.95	17.70	1.75

Hole_ID	Northing	Easting	Elevation	Length	Azimuth	Angle
	(m)	(m)	(m)	(m)	(degrees)	(deg)
WRH94008	6163701.64	549413.40	824.16		28.30	227 -61

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.50	0.50
4-3	10.20	10.40	0.20
4-1.1	15.30	15.95	0.65
4-1	18.45	19.50	1.05
4-0	22.20	24.15	1.95
4-2	25.10	26.85	1.75

Sample_ID	From (m)	To (m)	
S-94001	22.20	24.15	4-0 chip sample

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94009	6163709.72	549421.48	823.80		19.50	0 -90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94010	6163776.03	549471.68	816.36		45.70	248 -62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.80	1.80
1-3	3.65	4.80	1.15
1-1	5.55	6.30	0.75
1-0	7.70	9.20	1.50
2-0	13.20	14.10	0.90
2-2	15.55	16.85	1.30
3-0	27.55	28.35	0.80

Sample_ID	From (m)	To (m)	
S-94005	7.70	9.20	1-0 Chip Sample

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94011	6163781.88	549496.13	812.28		40.00	262 -58

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.80	1.80
1-5	3.65	4.20	0.55
1-3	11.70	12.70	1.00
1-1	13.35	14.10	0.75
1-0	15.10	17.00	1.90
2-0	21.00	21.90	0.90
2-2	23.35	24.65	1.30
3-0	36.36	37.16	0.80

Sample_ID	From (m)	To (m)	
S-94004	15.10	17.00	1-0 Chip Sample

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94012	6163785.26	549508.13	809.61		41.00	246 -62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.80	1.80
1-5	4.80	5.40	0.60
1-3	14.20	15.20	1.00
1-1	15.85	16.60	0.75
1-0	17.60	19.50	1.90
2-0	23.50	24.40	0.90
2-2	25.85	27.15	1.30
3-0	39.87	40.67	0.80

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94013	6164118.69	549248.60	750.66		41.00	237 -62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.50	1.50
1-3	8.91	9.73	0.82
1-1	10.32	11.42	1.10
1-0	13.62	15.30	1.68
2-0	29.10	29.76	0.66
2-2	32.16	33.13	0.97
3-0	39.00	40.18	1.18

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94014	6164096.62	549223.15	751.24	80.00	241	-62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.20	0.20
2-0	11.60	12.50	0.90
2-2	14.50	15.72	1.22
3-0	21.66	22.80	1.14
4-3	42.80	43.45	0.65
4-1.1	50.35	50.85	0.50
4-1	52.02	53.05	1.03
4-0	54.17	56.31	2.14
4-2	57.54	59.02	1.48
4-8	72.85	73.30	0.45

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94015	6164021.78	549156.74	745.92	54.00	225	-60

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	2.50	2.50
4-8	20.75	21.20	0.45
A-7	33.60	33.85	0.25

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94016	6164116.74	549250.28	751.02	24.30	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
1-3	11.30	12.32	1.02
1-1	12.94	14.28	1.34
1-0	16.80	18.95	2.15

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94017C	6164026.83	549197.03	754.05	33.50	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
4-3	12.05	12.80	0.75
4-1.1	20.75	21.25	0.50
4-1	21.65	22.84	1.19
4-0	24.13	26.58	2.45
4-2	28.08	29.83	1.69

Sample_ID	From (m)	To (m)
S94011	21.65	22.84
S94012	24.13	26.58

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94018	6164280.90	549162.01	719.44	36.50	241	-63

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.50	0.50
1-3	20.45	21.35	0.90
1-1	22.35	23.35	1.00
1-0	25.20	27.00	1.80

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94018A	6164344.28	549222.54	711.31	18.20	225	-60

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	6.00	6.00

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94019	6164198.56	548602.52	657.80	83.00	225	-62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
A-3	14.90	16.00	1.10
A-1	16.20	17.55	1.35
A-0.1	26.80	27.20	0.40
A-0	27.45	28.70	1.25
A-2	29.25	30.00	0.75
5-0	62.10	63.15	1.05
5-8	67.45	67.85	0.40
6-1	74.30	74.65	0.35
6-0	75.10	76.65	1.55
6-2	79.55	80.50	0.95

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94020	6161995.56	549989.05	1092.58	128.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.30	0.30
5-0	10.25	11.60	1.35
5-2	11.75	13.30	1.55
5-8	39.20	40.80	1.60
COAL	46.00	46.80	0.80
6-3	47.85	48.40	0.55
6-1	50.10	50.75	0.65
6-0	52.30	57.10	4.80
CS	71.70	72.10	0.40
CS	89.90	90.20	0.30
7-1	114.60	115.70	1.10
7-0.1	116.30	118.90	2.60
7-0	119.20	120.10	0.90
7-2.1	121.20	121.55	0.35
7-2	121.70	124.00	2.30

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94021	6162042.04	550045.29	1107.78	125.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
A-5	3.75	4.65	0.90
A-1	15.35	16.05	0.70
A-0	20.65	22.35	1.70
FAULT	47.00	48.00	1.00
5-0	88.20	89.25	1.05
5-2	89.80	90.55	0.75

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94022	6162069.14	550069.04	1110.41	103.60	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.20	1.20
A-1	9.00	9.40	0.40
A-0	13.90	15.50	1.60
5-3	31.80	32.00	0.20
5-0	39.15	40.50	1.35
5-2	41.00	41.85	0.85
5-8	46.70	47.20	0.50
CL	52.90	53.45	0.55
6-3	54.90	55.25	0.35
6-1	56.50	56.75	0.25
6-0	57.40	60.15	2.75
6-0.2	60.50	60.90	0.40
CS	66.90	67.30	0.40
FAULT	73.00	76.75	3.75
6-0R	76.75	88.50	11.75

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94023	6162132.86	550126.30	1109.20	59.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.30	0.30
A-5	9.00	9.70	0.70
A-1	21.00	21.80	0.80
A-0	26.10	27.35	1.25
5-0	54.55	55.80	1.25
5-2	56.10	57.15	1.05

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94024	6161998.58	549993.06	1093.59	130.00	053	-70

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.80	0.80
5-0	32.80	36.80	4.00
5-2	37.30	41.15	3.85
5-8	55.40	56.20	0.80
COAL	67.10	67.60	0.50
6-3	69.50	70.00	0.50
6-1	70.55	70.85	0.30
6-0	71.45	76.40	4.95
FAULT	80.00	80.20	0.20
6-3	82.00	82.30	0.30
6-1	83.50	83.95	0.45
6-0	84.85	89.95	5.10
?	117.00	118.00	1.00

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94025	6161911.94	549917.95	1100.60	42.60	223	-60

Seam_ID	From (m)	To (m)	Interval (m)
7	13.71	21.34	7.63
CS	35.05	36.85	1.80

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94026	6162499.34	549379.39	1063.97	79.20	252	-62

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
COAL	2.80	3.25	0.45
6-0	3.10	6.15	3.05
COAL	25.60	26.10	0.50
7-0.1	41.20	42.35	1.15
7-0	43.20	44.00	0.80
7-2	46.35	48.10	1.75
8-0	70.85	71.65	0.80

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94027	6162117.40	549547.22	1123.26	42.60	233	-60

Seam_ID	From (m)	To (m)	Interval (m)
8-0	9.14	12.19	3.05

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94028	6162145.07	549580.69	1119.10	70.00	231	-64

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
COAL	3.66	6.10	2.44
COAL	10.67	12.19	1.52
CS	21.94	22.94	1.00

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94029	6162177.96	549616.09	1116.17	97.50	230	-67

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
CS	9.80	10.25	0.45
CS	17.00	17.30	0.30
7-1	25.00	25.85	0.85
7-0.1	29.40	31.60	2.20
7-0	31.85	32.90	1.05
7-2.1	34.50	35.00	0.50
7-2	35.15	36.00	0.85
CS	44.60	44.95	0.35
CS	45.80	46.05	0.25
8-0	59.00	61.00	2.00

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94030	6162647.84	549981.10	1095.25	109.70	194	-61

Seam_ID	From (m)	To (m)	Interval (m)
OB	0.00	1.00	1.00
4-0	59.30	68.75	9.45

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94031	6162605.13	549966.22	1090.90	73.10	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OB	0.00	2.50	2.50
4-0	41.10	50.40	9.30
4-2	51.40	51.65	0.25
4-4	54.55	56.40	1.85

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94032	6162568.14	549949.78	1087.77	79.20	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OB	0.00	1.00	1.00
4-0	29.00	33.10	4.10

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94033	6162523.90	549935.11	1082.06	61.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OB	0.00	1.50	1.50
4-0	4.30	9.00	4.70
4-8	30.40	33.30	2.90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94034C	6161914.61	549911.52	1100.67	33.50	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.60	0.60
7-1	14.58	15.53	0.95
7-0.1	16.22	18.52	2.30
7-0	18.85	19.90	1.05
7-2.1	20.65	21.03	0.38
7-2	21.13	22.74	1.61
7-2.2	23.07	23.36	0.29

Sample_ID	From (m)	To (m)
S94013	14.58	15.53
S94014	16.22	18.52
S94015	17.32	18.52
S94016	18.52	18.85
S94017	18.85	19.90
S94018	20.65	21.13
S94019	21.13	22.74

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94035	6161911.35	549914.91	1100.60	25.00	0	-90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94037	6162240.29	550225.97	1113.76	22.80	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OB	0.00	0.80	0.80
4-3	10.85	11.15	0.30
4-0	13.60	16.40	2.80

Sample_ID	From (m)	To (m)	
S-94021	13.60	16.40	4-0 Chip Sample

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94038	6162378.00	550247.38	1116.51	29.00	0	-90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94039	6162027.60	549888.57	1105.01	19.20	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OB	0.00	1.50	1.50
6-3	12.20	12.80	0.60
6-1	14.20	14.60	0.40
6-0	16.00	19.20	3.20

Sample_ID	From (m)	To (m)	
S-94020	16.00	19.20	6-0 Chip Sample

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94040	6164464.48	549018.08	689.07	45.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	17.00	17.00

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94041	6164416.56	548965.71	684.97	17.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	12.00	12.00

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94042	6164145.11	548764.41	699.00	40.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.60	0.60
A-3	12.05	13.35	1.30
A-1	13.65	14.85	1.20
A-0.1	20.87	21.43	0.56
A-0	21.63	22.63	1.00
A-2	23.13	23.93	0.80

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94043	6164044.17	548921.30	727.36	40.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.60	0.60
A-0.1	5.40	5.70	0.30
A-0	5.85	6.85	1.00
A-2	7.25	8.05	0.80
5-0?	36.50	37.65	1.15

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94044	6164020.41	548894.84	725.54	47.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.60	0.60
A-3	3.20	4.00	0.80
A-1	4.20	5.20	1.00
A-0.1	10.05	10.35	0.30
A-0	10.50	11.50	1.00
A-2	11.90	12.70	0.80
5-0?	37.12	38.40	1.28

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94045	6164257.63	548693.61	663.85	40.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	2.40	2.40
A-0.1	12.30	12.75	0.45
A-0	13.25	14.25	1.00
A-2	14.35	15.30	0.95

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94046	6164185.78	548504.46	644.96	47.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.30	0.30
5-0	2.80	3.99	1.19
5-8	6.80	7.20	0.40
6-1	19.42	19.87	0.45
6-0	20.67	22.32	1.65
6-0.2	22.37	22.67	0.30
6-2.1	25.20	25.25	0.05
6-2	27.17	28.02	0.85
7-3?	42.75	43.95	1.20

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94047C	6164136.28	548468.31	641.36	45.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.30	0.30
7-2.1	15.54	15.93	0.39
7-2	19.06	20.94	1.88
8-1	33.47	34.20	0.73
8-0	35.20	37.40	2.20

Sample_ID	From (m)	To (m)	
16286B	19.06	20.94	7-2 seam
16288B	33.47	34.20	8-1 seam
16289B	35.20	37.40	8-0 seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WRH94048	6164023.75	548450.92	635.88	45.00	0	-90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94001	6161936.87	549890.74	1101.95	26.50	0	-90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94002	6162354.59	549504.20	1093.14	22.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	0.30	0.30
6-1	12.40	12.80	0.40
6-0	14.80	19.30	4.50

Sample_ID	From (m)	To (m)	
Bulk Sample	14.80	19.20	6-0 Seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94003	6162213.41	549664.43	1109.25	23.50	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
OVB	0.00	1.00	1.00
6-0	16.10	21.10	5.00

Sample_ID	From (m)	To (m)	
Bulk Sample	16.10	21.10	6-0 seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94004A	6162247.57	550232.59	1113.50	22.00	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
4-1	15.90	16.20	0.30
4-0	18.30	21.95	3.65

Sample_ID	From (m)	To (m)	
16255B	18.70	21.95	4-0 seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94004B	6162246.32	550231.41	1113.5	20.40	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
4-1	15.00	15.20	0.20
4-0	17.40	21.05	3.65

Sample_ID	From (m)	To (m)	
16256B	17.80	21.05	4-0 seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94005	6162339.29	550327.90	1121.00	17.50	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
1-0	14.10	17.35	3.25

Sample_ID	From (m)	To (m)	
16266B	14.10	15.60	1-0 seam
16267B	15.60	17.35	1-0 seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94006	6162324.63	550307.36	1119.40	33.70	0	-90

Seam_ID	From (m)	To (m)	Interval (m)
2-0	22.87	24.07	1.20
2-2	24.35	25.70	1.35
3-1	29.55	29.95	0.40
3-0	30.75	32.95	2.20

Sample_ID	From (m)	To (m)	
16268B	22.87	24.07	2-0 seam
16270B	24.35	25.70	2-2 seam
16273B	29.55	29.95	3-1 seam
16275B	30.75	32.95	3-0 seam

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94007	6164122.91	549246.56	751.00	Variable	0	-90

Hole_ID	Northing (m)	Easting (m)	Elevation (m)	Length (m)	Azimuth (degrees)	Angle (deg)
WSH94008	6164031.05	549200.37	754.00	Variable	0	-90

Appendix 1.3

Survey Control

APPENDIX 2

ANALYTICAL RESULTS

Appendix 2.1

Winter Programme

Drill Core and Chip Samples

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO: GLOBALTEX INDUSTRIES INC.
ATTN : KEVIN JAMES
PROJECT :

LLL FILE #: 36532
DATE : MAY 13, 1994
PAGE : 2

SAMPLE	SM	WT%	1.60 S.G.	BASIS	PROXIMATE ANALYSIS % H2O	V.M.	ASH	F.C.	S	F.S.I.
S-94004	1	49.54	FLT	A.D.	0.82	23.26	6.86	69.06	0.50	6.0
				Dry	----	23.45	6.92	69.63	0.50	
S-94004	1	50.46	SNK	A.D.	1.21		78.14			
				Dry	----		79.10			
S-94005	1	77.91	FLT	A.D.	1.08	22.14	6.32	70.46	0.41	2.0
				Dry	----	22.38	6.39	71.23	0.41	
S-94005	1	22.09	SNK	A.D.	0.98		72.32			
				Dry	----		73.04			
S-94001	4	64.40	FLT	A.D.	1.39	19.91	7.38	71.32	0.48	2.0
				Dry	----	20.19	7.48	72.33	0.49	
S-94001	4	35.60	SNK	A.D.	1.32		71.63			
				Dry	----		72.59			
S-94021	4	55.82	FLT	A.D.	1.65	18.96	8.99	70.40	0.49	1.0
				Dry	----	19.28	9.14	71.58	0.50	
S-94021	4	44.18	SNK	A.D.	1.36		72.13			
				Dry	----		73.12			
S-94020	6	82.98	FLT	A.D.	1.06	16.95	7.12	74.87	0.57	0.5
				Dry	----	17.13	7.20	75.67	0.58	
S-94020	6	17.02	SNK	A.D.	0.91		64.89			
				Dry	----		65.49			

LORING LABORATORIES LTD.
629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : KEVIN JAMES
PROJECT :

LLL FILE #: 3 6 5 3 2
DATE : MAY 31, 1994

		PROXIMATE ANALYSIS %				
SEAM 4:	BASIS	H2O	V.M.	ASH	F.C.	F.S.I.
S 94011	A.D.	0.75	19.64	8.89	70.72	1.5
	Dry	----	19.79	8.96	71.25	
S 94012	A.D.	0.52	21.32	12.09	66.07	3.0
	Dry	----	21.43	12.15	66.42	

Analytical Results - 1994 Drillcore

The accompanying tables provide analytical results on two 1994 drillcore, one each from 4 Seam and 7 Seam.

The raw coal was crushed to minus 9 mm (3/8 inch) prior to testing.

WRH 94017C

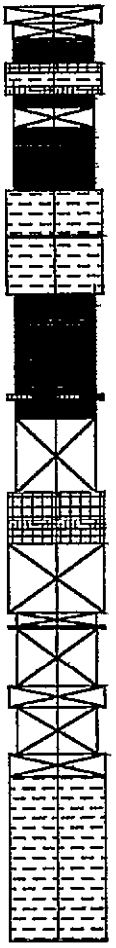
1:100

4-1.1

4-1 S94011

4-0 S94012

4-2



LEGEND

PINE VALLEY COAL LTD.

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : KEVIN JAMES
PROJECT : WRH 940170

LLL FILE #: 3 6 5 3 2
DATE : MAY 20, 1994
PAGE : 6

PROXIMATE ANALYSIS

SEAM 4		BASIS	H2O %	V.M. %	ASH %	F.C. %	S %	F.S.I.	H.G.I.
RAW HEAD		A.D.	0.09	21.11	10.12	68.68	0.46	2.5	77
		Dry	----	21.13	10.13	68.74	0.46		
-28Cmp		A.D.	0.87	20.81	9.94	68.38	0.42	3.5	
		Dry	----	20.99	10.03	68.98	0.42		
+28Cmp	1.6x1.9	A.D.	1.00	21.18	29.36	48.46			
		Dry	----	21.39	29.66	48.95			
Clean Coal Comp.		A.D.	0.21	20.28	4.91	74.60	0.50	3.0	
		Dry	----	20.32	4.92	74.76	0.50		

ULTIMATE ANALYSIS

SEAM 4	H2O % Air Dried	C %	H %	N %	ASH %	S %	O %	Cal/Gm	H.G.I.
Cl.C.Comp.	0.21	84.24	4.69	0.97	4.91	0.50	4.48	8103	76

Note : Hydrogen and oxygen do not include H and O from sample moisture.
Value of oxygen by difference.

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO: GLOBALTEX INDUSTRIES INC.
ATTN : KEVIN JAMES
PROJECT : WRH94017C

LLL FILE #: 3 6 5 3 2
DATE : MAY 19, 1994
PAGE : 7

F L O A T S I N K A N A L Y S I S

SAMPLE : 4 SEAM, COMPOSITE

SIZE FRACTION: +28 mesh ANALYSIS BASIS : DRY

SPECIFIC GRAVITY	FRACTIONAL WT %	ASH %	CUMULULATIVE WT %	ASH %	% A.D. MOIST.	%V.M.	%F.C.	F.S.I.
1.35 FLT	83.74	2.87	83.74	2.87	0.82	19.95	77.17	3.0
1.35x1.40	2.15	9.64	85.89	3.04	0.97	17.34	73.02	1.0
1.40x1.50	3.97	15.77	89.86	3.61	0.93	16.86	67.38	1.0
1.50x1.60	1.30	24.98	91.16	3.91	1.01	15.87	59.15	
1.60x1.70	0.59	32.72	91.76	4.10	1.07	20.99	46.29	
1.70x1.80	0.36	38.40	92.12	4.23	1.22	21.39	40.21	
1.80x1.90	0.29	36.21	92.40	4.33	0.94	30.03	33.76	
1.90 SNK	7.60	77.56	100.00	9.89	0.72			
	100.00							

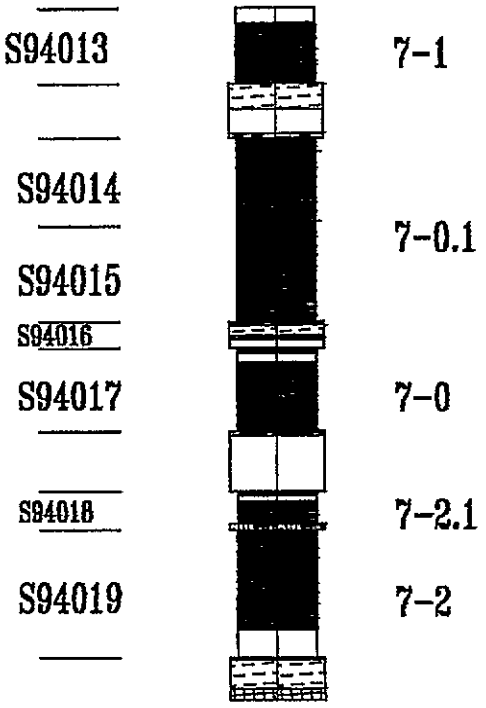
SCREEN ANALYSIS

SEAM 4 COMPOSITE	WEIGHT %
+28 mesh	78.25
-28 mesh	21.75

SM 1 FLT & SM 7 CCC	F.S.I.
40/60 % BLEND	1.0
50/50 % BLEND	1.5
60/40 % BLEND	2.0

WRH94034C

1:100



LEGEND

PINE VALLEY COAL LTD.

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO: GLOBALTEX INDUSTRIES INC.
ATTN : KEVIN JAMES
PROJECT :

WRH94034C

LLL FILE #: 3 6 5 3 2
DATE : MAY 17, 1994

PROXIMATE ANALYSIS

SEAM 7	BASIS	H2O	V.M.	ASH	F.C.	F.S.I.	H.G.I.
			%				
RAW HEAD	A.D.	0.89	15.69	13.11	70.31	1.5	67
	Dry	----	15.83	13.23	70.94		

FORMS OF SULPHUR

SEAM 7	%S (Air Dried) Total	Pyrit.	Sulph.	Org.
RAW HEAD	0.55	0.05	0.02	0.48
Cl.Coal Comp.	0.70	0.03	0.01	0.66

FORMS OF SULPHUR

	%S (Air Dried) Total	Pyrit.	Sulph.	Org.
94004, SM 1, 1.6 flt	0.50	0.03	0.01	0.46
94020, SM 6, 1.6 flt	0.57	0.03	0.01	0.53
SM 4, Clean Coal Comp.	0.50	0.03	<0.01	0.47

LORING LABORATORIES LTD.
629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO: GLOBALTEX INDUSTRIES INC. WRH 94034C
ATTN : KEVIN JAMES
PROJECT :

LLL FILE #: 36532
DATE : MAY 11, 1994
PAGE : 1

F L O A T S I N K A N A L Y S I S

SAMPLE : 7 SEAM, COMPOSITE

SIZE FRACTION: [+28 mesh] ANALYSIS BASIS : DRY

SPECIFIC GRAVITY	FRACTIONAL WT %	ASH %	CUMULULATIVE WT %	ASH %	% A.D. MOIST.	%V.M.	%F.C.	F.S.I.
1.35 FLT	80.76	2.03	80.76	2.03	0.64	15.63	82.34	0.5
1.35x1.40	2.16	6.46	82.92	2.15	0.80	15.21	78.33	0.5
1.40x1.50	1.48	17.39	84.40	2.42	0.96	15.43	67.18	0.5
1.50x1.60	1.06	30.27	85.46	2.76	1.09	14.69	55.04	(Corr.)
1.60x1.70	0.81	39.88	86.27	3.11	1.01	12.79	47.33	
1.70x1.80	0.70	49.10	86.96	3.48	1.22	11.85	39.05	
1.80x1.90	0.93	56.52	87.90	4.04	1.33	10.33	33.15	
1.90 SNK	12.10	78.86	100.00	13.10	1.37			
	100.00							

SCREEN ANALYSIS

SEAM 7 COMPOSITE	WEIGHT %
+28 mesh	85.22
-28 mesh	14.78

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO: GLOBALTEX INDUSTRIES INC. WR# 94034C
ATTN : KEVIN JAMES
PROJECT :

LLL FILE #: 3 6 5 3 2
DATE : MAY 18, 1994
PAGE : 4

PROXIMATE ANALYSIS

SAMPLE		BASIS	% H2O.	% V.M.	% ASH	% F.C.	% S	F.S.I.
SM 7, -28Cmp		A.D.	0.82	15.87	11.47	71.84	0.65	0.5
		Dry	----	16.00	11.56	72.43	0.66	(Corr.)
SM 7, +28Cmp	1.6x1.9	A.D.	1.28	11.85	47.63	39.24		
		Dry	----	12.00	48.25	39.75		
SEAM 7, Cl.Coal Comp.		A.D.	1.06	15.19	4.27	79.48	0.60	0.5
		Dry	----	15.35	4.32	80.33	0.61	

ULTIMATE ANALYSIS

SEAM 7	% Air Dried H2O	C	H	N	ASH	S	O	Cal/Gm	H.G.I.
Cl.C.Comp.	1.06	85.33	4.18	1.05	4.27	0.60	3.51	8163	69

Note : Hydrogen and oxygen do not include H and O from sample moisture.
Value of oxygen by difference.

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : KEVIN JAMES
PROJECT :

LLL FILE # : 3 6 5 3 2
DATE : MAY 31, 1994
REPORT BY : ARNO HOOGVELD

MINERAL ANALYSIS

SAMPLE ID	% In Ash										
	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	Undet.
Raw Head, SM 7 Comp	66.02	18.90	0.61	2.32	1.75	0.86	0.80	2.10	0.47	1.03	5.14
Clean Coal Cmp, SM 7	64.62	20.41	0.89	2.70	2.22	0.68	1.37	1.25	1.21	1.51	3.14
SM 7, +28m, 1.6x1.9	69.84	19.66	0.76	2.13	0.70	0.63	0.36	2.07	0.36	0.47	3.02
Raw Head, SM 4 Comp	50.84	33.08	1.07	3.99	3.01	0.88	1.06	0.70	1.62	1.70	2.05
Clean Coal Cmp, SM 4	52.22	26.46	1.00	3.37	4.06	0.66	2.13	1.06	3.09	1.66	4.29
SM 4, +28m, 1.6x1.9	35.92	18.36	0.37	14.78	11.66	6.33	0.95	0.81	1.06	4.20	5.56 **

WRH 94034C

WRH 94017C

** = SAMPLE HAS BEEN RE-ASHED AND RE-ANALYZED.

ASH FUSION

SAMPLE ID	Reducing Atmosphere			
	Initial	Soften.	Hemisph.	Fluid
RAW HEAD, SM 7 COMP	1300	1379	1423	1452+
Clean Coal Cmp, SM 7	1271	1368	1452+	1452+
SM 7, +28m, 1.80 Flt	1308	1413	1452+	1452+
RAW HEAD, SM 4 COMP	1394	1452+	1452+	1452+
Clean Coal Cmp, SM 4	1286	1410	1452+	1452+
SM 4, +28m, 1.80 Flt	1297	1452+	1452+	1452+

WRH 94034C

WRH 94017C

(Temperatures in Centigrade)

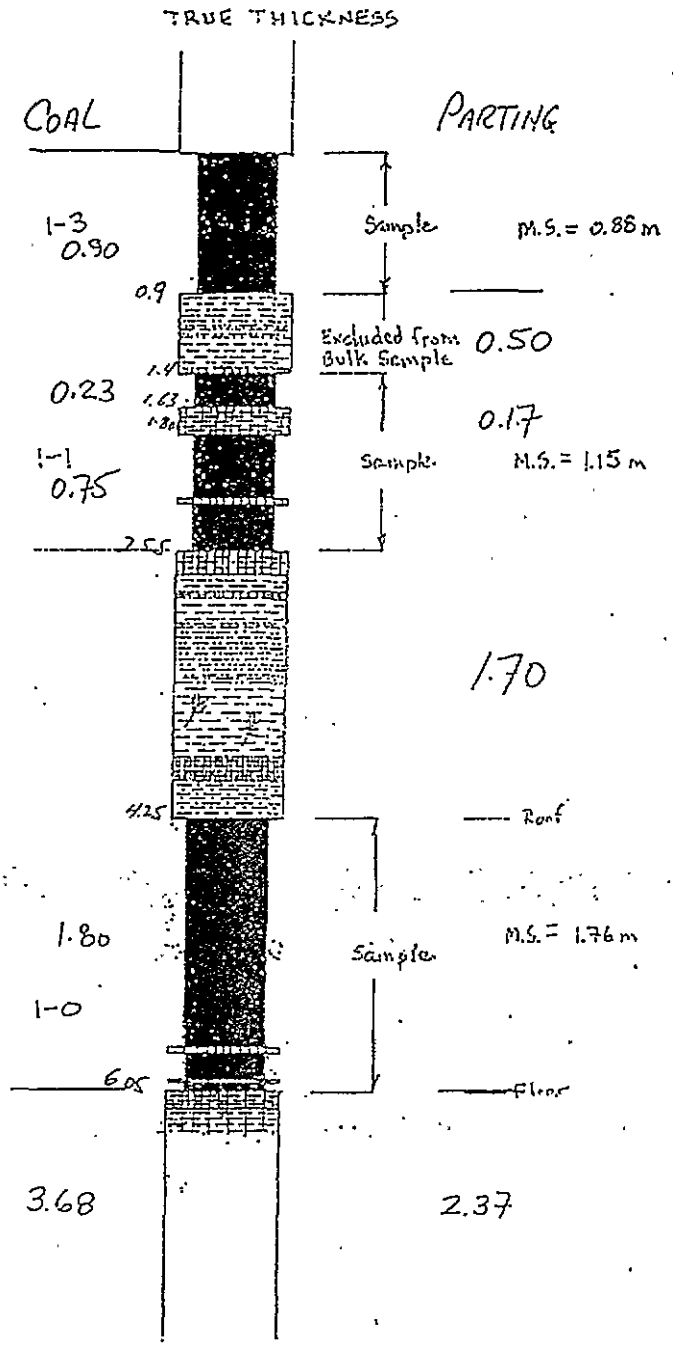
Appendix 2.2

Summer Program

WSH 94007

1 Seam

Bulk Sample



DESCRIPTION

0.88 Coal, CA

0.14 Shale, dark grey to black, carbonaceous
0.14 Shale, silty and carbonaceous bands

0.26 Coal, CA, bright, banded
0.15 Shale, black, carbonaceous, soft
0.41 Coal, CA

0.03 Shale, dark grey – light grey, volcanic? ash band.
0.31 Coal, CA, bright
0.11 Shale, black, carbonaceous
Shale, dark grey to black, carbonaceous

0.36 Siltstone, medium grey

1.77 Shale, medium to dark grey

0.16 Shale, black, very carbonaceous, "bone coal"
0.19 Shale, medium grey, silty, reacts strongly to dilute HCl

1.37 Coal, CA, bright, banded.

0.12 Coal, coarse, broken(mixed) drill.
0.03 Shale, dark grey to black, carbonaceous, soft, friable
0.17 Coal
0.03 Shale, black, slickensides, scaley
0.05 Coal
0.09 Shale, black, very carbonaceous
0.10 Shale, dark grey to black, solid core, very poor to nil reaction to dilute HCl

WSH94007

* NOTE: (1) FOOTWALL OR SEAM FLOOR MATERIAL IS COMPRISED OF CARBONACEOUS CLAYSTONE/SHALE. THE ASH CONTENT OF THIS MATERIAL IS ASSIGNED A VALUE OF 60% BASED UPON washability sink data @ 1.90 S.G. cut.

(2) After one month exposure to atmospheric conditions, all waste rock from #1 Seam crumbles when handled.

(3) Bentonite was not observed in any of the waste rock as a matrix constituent.

#1 SEAM
NORTH
BULK CORE SAMPLE

Vertical
Scale: 1:50

Date: Jan 5/95
Drawn By: K.T. James

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : DAVID FAWCETT

WSH 94007

FILE #: 3 6 7 6 6
DATE : SEPT 29, 1994
PAGE : 1

PROJECT : Seam 1-0 Bulk Sample

SAMPLE	SEAM	BASIS	PROXIMATE ANALYSIS % H2O	V.M.	ASH	F.C.	S	KJ/Kg	F.S.I.	H.G.I.
		A.R.	1.87	23.82	7.14	67.17	0.69	32684		
HEAD	1-0	A.D.	0.90	24.06	7.21	67.83	0.70	33006	8.5	89
		Dry	----	24.28	7.28	68.45	0.71	33306		
Seam Comp Product		A.D.	0.68	23.65	4.87	70.80	0.66	--	8.5	--
		Dry	----	23.81	4.90	71.28	0.66	--		
Low S.G. Product		A.D.	0.68	23.45	2.49	73.38	0.56	35243	8.0	86
		Dry	----	23.61	2.51	73.88	0.56	35484		

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : DAVID FAWCETT
PROJECT : BULK SAMPLE

FILE # : 3 6 7 8 7
DATE : SEPT 30, 1994
PAGE : 2

SCREEN ANALYSIS WSH 94007

SEAM 1

SCR.SIZE	----- % ----- WT	H2O	--------- % Dry Basis --------- ASH	V.M.	F.C.	S	F.S.I.
Dry Screen							
+ 6 mm	30.79	0.73	8.01	23.30	68.69	0.58	4.5
6 x 3mm	29.85	0.91	7.29	25.08	67.64	0.61	8.5
3mm x 28mesh	25.30	0.95	6.58	24.65	68.76	0.65	8.5
Wet Screen							
28 x 100mesh	9.37	1.05	8.32	23.71	67.97	0.76	7.5
100 x 0 mesh	4.70	0.72	13.17	22.22	64.61	1.30	7.0
	100.01						

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION, WSH 94007
ATTN : DAVID FAWCETT
PROJECT: BULK SAMPLE

FILE #: 3 6 7 8 7
DATE : SEPT 30, 1994

SAMPLE ID : SEAM 1
FRACTION SIZE : + 3.0 (mm)

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	1.35	0.86	26.59	9.0	1.35	0.86	9.0	0.57	0.55
1.25x1.30	66.35	1.52	23.61	8.5	67.70	1.52	8.0	--	0.79
1.30x1.35	19.12	3.77	23.43	8.0	86.82	2.02	7.5	--	0.83
1.35x1.40	2.02	12.16	23.42	8.0	88.84	2.25	7.5	0.59	0.70
1.40x1.50	1.49	18.65	23.75		90.34	2.52	7.0	--	0.72
1.50x1.60	1.11	26.03	23.36		91.44	2.80	7.0	0.59	0.66
1.60x1.70	1.06	33.78			92.51	3.16	7.0	--	0.69
1.70x1.80	0.86	38.51			93.37	3.48	7.0	--	0.63
1.80x1.90	0.76	45.10			94.12	3.82	7.0	0.61	0.76
1.90 SNK	5.88	57.20			100.00	6.96	6.5	--	0.78
	100.00								

FRACTION SIZE : 3.0 (mm) x 28 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.61	1.00	26.92	9.0	0.61	1.00	9.0	0.60	0.79
1.25x1.30	79.11	1.27	24.16	8.5	79.72	1.27	9.0	--	0.77
1.30x1.35	10.13	4.01	20.85	8.0	89.85	1.58	8.5	--	0.76
1.35x1.40	1.78	10.65	20.79	8.0	91.63	1.75	8.5	0.62	1.02
1.40x1.50	1.14	18.35	20.74		92.77	1.96	8.5	--	1.04
1.50x1.60	0.71	26.23	20.63		93.48	2.14	8.5	0.63	0.92
1.60x1.70	0.67	37.95			94.15	2.40	8.5	--	1.38
1.70x1.80	0.58	46.31			94.74	2.67	8.5	--	1.50
1.80x1.90	0.61	52.19			95.34	2.98	8.5	0.64	1.37
1.90 SNK	4.66	67.59			100.00	5.99	8.5	--	1.35

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION,
ATTN : DAVID FAWCETT
PROJECT: BULK SAMPLE

WSH 94007

FILE #: 3 6 7 8 7
DATE : SEPT 30, 1994

SAMPLE ID : SEAM 1

FRACTION SIZE : 28 x 100 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.35 FLT	0.83	0.98	22.92	8.5	0.83	0.98	8.5	--	3.30
1.35x1.40	86.74	2.08	23.03	8.5	87.57	2.07	8.5	0.67	1.14
1.40x1.50	2.00	14.04	20.17	4.0	89.57	2.34	8.5	--	1.71
1.50x1.60	0.96	23.87	19.80	2.5	90.53	2.57	8.5	0.69	1.87
1.60 SINK	9.47	55.83			100.00	7.61	7.5	--	1.82
	100.00								

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION WSH 94007
ATTN : DAVE FAWCETT

LLL FILE # : 3 6 7 8 7
DATE: SEPTEMBER 29, 1994

SEAM 1-0

PAGE 5

MINERAL ANALYSIS

SAMPLE ID	% In Ash										
	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	Undet.
Seam 1-0 , Head	50.36	18.52	0.70	12.44	3.81	2.17	1.32	0.82	0.61	4.06	5.19
Low S.G. Product	47.50	23.36	0.85	9.15	3.51	1.31	2.80	0.18	2.38	3.58	5.38

ASH FUSION

SAMPLE ID	Reducing Atmosphere			
	Initial	Soften.	Hemisph	Fluid
Seam 1-0, Head	1100	1113	1147	1273
Seam Comp Product	1126	1186	1234	1305
Low S.G. Product	1155	1215	1289	1310

(Temperatures in Centigrade)

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION WSH94007
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 7 8 7
DATE : SEPTEMBER 29, 1994

FORMS OF SULPHUR

SEAM 1-0	------ %S (Air Dried) ------- Total	Pyrit.	SO4	Org. S
Head	0.70	0.15	<0.01	0.55
Seam Comp Product	0.66	0.14	<0.01	0.52
+3 mm Cum.1.90 FLT	0.61	0.08	<0.01	0.53
3mm x 28mesh, 1.90 Cum. FLT	0.64	0.08	<0.01	0.56

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

WSH94007

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 7 8 7
DATE : SEPT 29, 1994
PAGE : 7

ULTIMATE ANALYSIS

	% Air Dried						
SEAM 1-0	H2O	C	H	N	ASH	S	O
Low S.G. Product	0.68	85.72	5.02	1.35	2.49	0.56	4.18

Note : Hydrogen and oxygen do not include H and O from sample moisture.
Value of oxygen by difference.

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

WSH 94007

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 7 8 7
DATE : SEPT 30, 1994

---------- DILATATION TEST ----------

SAMPLE ID	ST (Deg.Celsius)	MDT	MC%	MD%	G
SEAM 1-0 Low S.G. Product	401	476	20.00	-11	0.772

--------- GIESELER FLUIDITY TEST ---------

SAMPLE ID	START DDPM (Deg.C.)		MAXIMUM DDPM (Deg.C.)		FINAL DDPM (Deg.C.)		RANGE
SEAM 1-0 Low S.G. Product	1	434	9	462	0	495	61

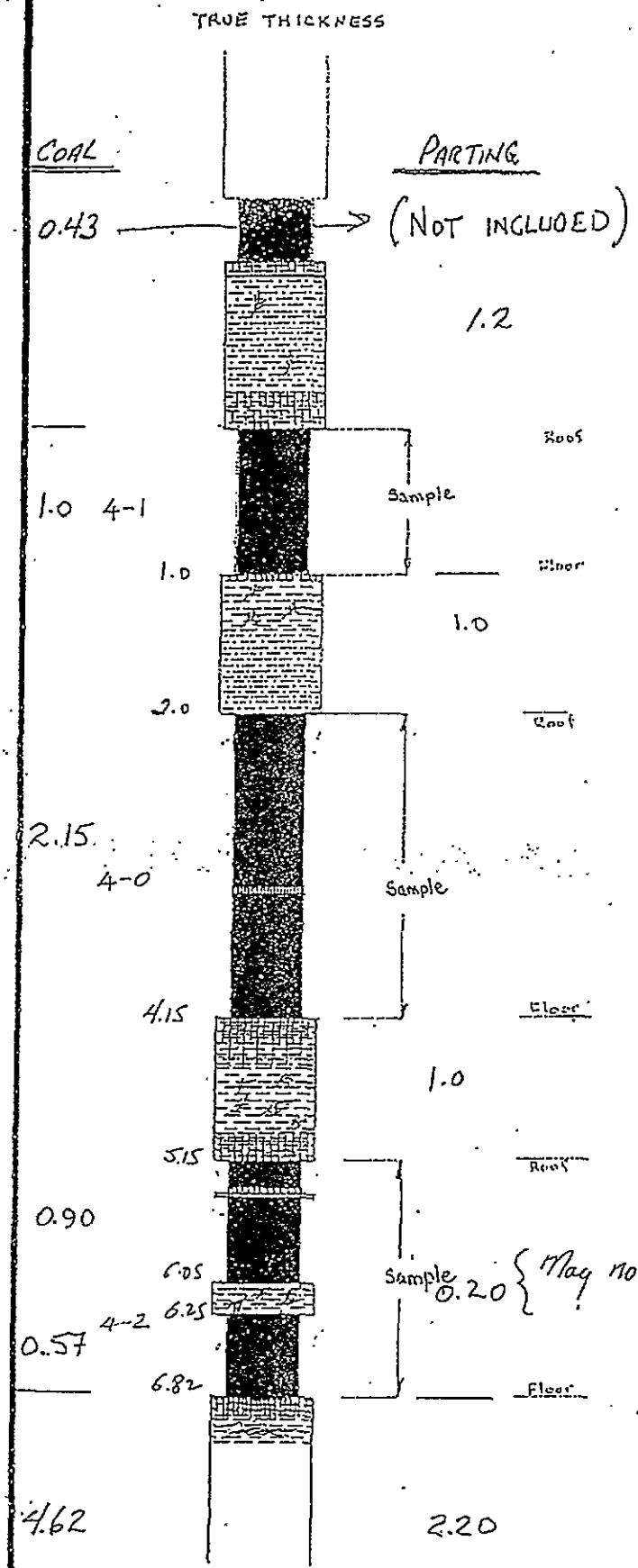
Appendix 2.3

Summer Program

WSH 94008

4 Seam

Bulk Sample



DESCRIPTION

COAL, CA, BRIGHT >50% VITRAIN, Banded
Shale, Black, very carbonaceous

0.04	Coal, cc, dull, fusain rich
1.02	Coal, CA, bright, banded, pronounced cleat.
0.03	shale, dark grey to black, carbonaceous, soft.
0.19	Shale, dark grey, with plant fragments, poor reaction to dilute HCl
0.61	Shale, medium grey, with sandy/silty lenses. Bed ~30 strong reaction to dilute HCl.
0.04	Coal, cc~cD, dull, fusain rich
1.20	Coal, CA, bright, banded,
0.03	Coal, cc~cD, dull
0.87	Coal, CA, banded, bright vitrain rich.
0.10	Shale, black, carbonaceous, sheared
0.23	Shale, black to dark grey
0.42	Shale, dark grey, with carbonaceous plant fragments.
0.25	shale, black carbonaceous, soft friable, with abundant coaly lenses, no reaction to dilute HCl
0.21	COAL
0.03	Band coal
0.02	Siltstone, light grey, strong reaction to dilute HCl
0.42	Coal, CA, bright, banded
0.23	Shale, dark grey, with carbonaceous plant fragments. Core is solid.
0.50	Coal, CA, bright, banded, with strong cleat
0.14	Shale, black, very carbonaceous, with coaly seamlets
0.29	Shale, dark grey with coaly seamlets Bed ~ 30° Core is solid

May not be Separable

WSH94008

4 SEAM
NORTH
BULK CORE SAMPLE

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC. WSH 94008
ATTN : DAVID FAWCETT

FILE #: 3 6 7 6 6
DATE : AUGUST 31, 1994
PAGE : 1

PROJECT : Seam 4 Bulk Sample

SAMPLE	SEAM	BASIS	PROXIMATE ANALYSIS % H2O	V.M.	ASH	F.C.	S	KJ/Kg	F.S.I.	H.G.I.
		A.R.	2.11	19.80	17.53	60.56	0.44	27168		
HEAD	4	A.D.	1.14	20.00	17.70	61.16	0.44	27436	3.5	87
		Dry	----	20.23	17.90	61.87	0.45	27752		
Seam Comp Product		A.D.	1.01	19.55	7.98	71.46	0.52	--	4.0	84
		Dry	----	19.75	8.06	72.19	0.53	--		
Low S.G. Product		A.D.	0.85	20.03	2.57	76.55	0.51	34951	3.5	--
		Dry	----	20.20	2.59	77.21	0.51	35251		

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : DAVID FAWCETT
PROJECT : BULK SAMPLE

FILE # : 36766
DATE : August 31, 1994
PAGE : 2

WSH 9400B

SCREEN ANALYSIS

SEAM 4

SCR.SIZE	% WT	% H2O	% Dry Basis ASH	% Dry Basis V.M.	% Dry Basis F.C.	% Dry Basis S	F.S.I.
Dry Screen							
+ 6 mm	45.88	1.09	23.42	19.01	57.58	0.39	1.5
6 x 3mm	21.01	1.02	14.17	20.84	64.98	0.44	5.5
3mm x 28mesh	18.66	1.02	11.59	21.80	66.61	0.48	7.0
Wet Screen							
28 x 100mesh	8.07	0.90	12.81	21.89	65.31	0.56	4.0
100 x 0 mesh	6.37	1.02	18.99	19.13	61.88	0.56	2.5

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

WSH 94008

LLL FILE # : 3 6 7 6 6 - 1
DATE: SEPTEMBER 29, 1994

MINERAL ANALYSIS

SAMPLE ID	% In Ash										
	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	Undet.
Seam 4, Head	55.82	19.28	0.70	9.24	2.87	1.34	0.92	1.33	0.63	2.36	5.51
Low S.G. Product	45.20	29.49	1.40	4.89	4.00	0.56	3.21	0.31	4.06	1.33	5.55

ASH FUSION

SAMPLE ID	----- Reducing Atmosphere ------			
	Initial	Soften.	Hemisph .	Fluid
Seam 4, Head	1147	1200	1244	1342
Seam Comp Product .	1265	1292	1326	1452
Low S.G. Product	1268	1365	1413	1452+

(Temperatures in Centigrade)

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION WSH94008
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 7 6 6 - 1
DATE : SEPTEMBER 29, 1994

FORMS OF SULPHUR

SEAM 4	------ %S (Air Dried) ------- Total	Pyrit.	SO4	Org. S
Head	0.44	0.06	<0.01	0.38
Seam Comp Product	0.52	0.02	<0.01	0.50
+3 mm Cum.1.90 FLT	0.52	0.05	<0.01	0.47
3mm x 28mesh, 1.90 Cum. FLT	0.54	0.04	<0.01	0.50

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

WSH 94008

LLL FILE #: 3 6 7 6 6 - 1
DATE : SEPT 29, 1994

ULTIMATE ANALYSIS

	% Air Dried						
SEAM 4	H2O	C	H	N	ASH	S	O
Low S.G. Product	0.85	86.53	4.83	1.30	2.57	0.51	3.41

Note : Hydrogen and oxygen do not include H and O from sample moisture.
Value of oxygen by difference.

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

FILE #: 3 6 7 6 6 - 1

TO: GLOBALTEX COAL LTD. WSH 94008 DATE : SEPT 30, 1994

PROJECT: BULK SAMPLE PAGE 4

SAMPLE ID: SEAM 4

LAB ANALYSIS CODE (FROTH, FLOAT) _FLOAT_

FRACTION SIZE : + 3.0 (mm)

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.01	1.22	22.54	6.0	0.01	1.22	6.0	--	0.87
1.25x1.30	44.00	1.63	23.08	6.5	44.01	1.63	6.5	--	0.67
1.30x1.35	20.32	4.30	19.83	1.5	64.33	2.47	4.5	--	0.60
1.35x1.40	5.34	12.59	20.36	1.0	69.67	3.25	4.5	0.52	0.72
1.40x1.50	2.88	15.85	20.58	1.0	72.55	3.75	4.5	--	0.84
1.50x1.60	1.18	25.59	20.81		73.73	4.10	4.5	0.52	0.75
1.60x1.70	0.88	34.40	20.68		74.61	4.46	4.0	--	0.89
1.70x1.80	0.78	42.09			75.39	4.85	3.5	--	1.02
1.80x1.90	1.02	47.07			76.41	5.41	3.5	0.52	0.85
1.90 SNK	23.60	72.60			100.01	21.26	3.5	--	0.90

SAMPLE ID: SEAM 4

FRACTION SIZE : 3.0 (mm) x 28 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.21	1.07	25.23	7.5	0.21	1.07	7.5	--	1.26
1.25x1.30	70.69	1.79	23.44	8.0	70.90	1.79	7.5	--	0.68
1.30x1.35	9.98	5.13	20.19	1.5	80.88	2.20	7.5	--	0.80
1.35x1.40	3.08	9.72	19.62	1.5	83.96	2.48	7.5	0.52	0.88
1.40x1.50	2.21	17.45	19.25	1.5	86.17	2.86	7.5	--	0.84
1.50x1.60	0.91	27.71	18.54		87.08	3.12	7.5	0.57	1.04
1.60x1.70	1.04	32.40	18.33		88.12	3.47	7.5	--	1.30
1.70x1.80	0.74	42.33			88.86	3.79	7.5	--	1.22
1.80x1.90	0.56	46.66			89.42	4.06	7.5	0.54	1.39
1.90 SNK	10.58	75.62			100.00	11.63	7.0	--	1.08

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

FILE #: 36766-1

TO: GLOBALTEX COAL LTD. WSH 94008

DATE : SEPT 30, 1994

PROJECT: BULK SAMPLE

SAMPLE ID: SEAM 4

LAB ANALYSIS CODE (FROTH, FLOAT) _FLOAT_

FRACTION SIZE : 28 x 100 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.35 FLT	77.70	2.23	2323.39	5.0	77.70	2.23	5.0	--	0.80
1.35x1.40	1.99	8.47	19.79	1.5	79.69	2.39	4.5	0.51	1.00
1.40x1.50	3.15	12.37	19.53	1.0	82.84	2.77	4.5	--	0.97
1.50x1.60	1.57	22.11	18.32		84.41	3.13	4.5	0.52	1.22
1.60 SINK	15.58	63.84			99.99	12.59	4.0	--	0.93
	100.00								

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

WSH 94008

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 7 6 6 - 1
DATE : SEPT 30, 1994

--- DILATATION TEST ---

SAMPLE ID	ST (Deg.Celsius)	MDT	MC%	MD%	G
SEAM 4	419	----------	20% @ 479	----------	
Low S.G. Product					

--- GIESELER FLUIDITY TEST ---

SAMPLE ID	START DDPM (Deg.C.)		MAXIMUM DDPM (Deg.C.)		FINAL DDPM (Deg.C.)		RANGE
SEAM 4	1	445	2	457	0	482	37
Low S.G. Product							

Appendix 2.4

Summer Program

WSH 94003

6 Seam

Bulk Sample

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC. WSH94003
ATTN : DAVID FAWCETT

FILE #: 36773-1
DATE : AUGUST 30, 1994
PAGE : 1

PROJECT : Seam 6 Bulk Sample 6-1

SAMPLE	SEAM	BASIS	PROXIMATE ANALYSIS % H2O	V.M.	ASH	F.C.	S	KJ/Kg	F.S.I.	H.G.I.
HEAD	6	A.R.	2.32	14.61	5.07	78.00	0.53	32709		
		A.D.	1.36	14.75	5.12	78.77	0.54	33032	0.0	68
		Dry	----	14.95	5.19	79.86	0.55	33487		

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : DAVID FAWCETT
PROJECT : BULK SAMPLE

FILE # : 36773-1
DATE : AUGUST 30, 1994
PAGE : 2

WSH 94002

SCREEN ANALYSIS

SEAM 6

SCR.SIZE	----- % ----- WT	H2O	---------- % Dry Basis ---------- ASH	V.M.	F.C.	S	F.S.I.
Dry Screen							
+ 6 mm	46.60	1.15	3.56	14.21	82.23	--	0.0
6 x 3mm	21.98	1.17	3.92	14.23	81.86	--	0.0
3mm x 28mesh	18.91	1.11	4.72	14.59	80.69	--	0.0
Wet Screen							
28 x 100mesh	7.92	0.80	5.96	16.53	77.51	--	0.0
100 x 0 mesh	4.59	0.93	7.54	17.19	75.27	--	0.0
	100.00						

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION,
ATTN : DAVID FAWCETT
PROJECT: BULK SAMPLE

WSH 94002

FILE #: 3 6 7 7 3 - 1
DATE : AUGUST 30, 1994

SAMPLE ID : SEAM 6-O

FRACTION SIZE : + 3.0 (mm)

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.00	0.00	--	--	0.00	0.00	--	--	--
1.25x1.30	3.06	1.76	--	--	3.06	1.76	--	--	0.93
1.30x1.35	82.57	1.97	--	--	85.64	1.96	--	--	1.00
1.35x1.40	9.96	4.19	--	--	95.60	2.20	--	--	1.09
1.40x1.50	1.80	14.23	--		97.40	2.42	--	--	1.04
1.50x1.60	0.65	27.89	--		98.04	2.59	--	--	0.98
1.60x1.70	0.41	35.88			98.45	2.72	--	--	1.15
1.70x1.80	0.27	47.21			98.72	2.84	--	--	1.14
1.80x1.90	0.20	58.34			98.91	2.95	--	--	1.19
1.90 SNK	1.09	75.33			100.00	3.74	--	--	0.94
	100.00								

FRACTION SIZE : 3.0 (mm) x 28 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.00	0.00	--	--	0.00	0.00	--	--	0.00
1.25x1.30	13.35	0.99	--	--	13.35	0.99	--	--	1.20
1.30x1.35	53.30	1.52	--	--	66.65	1.41	--	--	1.03
1.35x1.40	23.78	3.12	--	--	90.42	1.86	--	--	1.03
1.40x1.50	4.88	9.89	--	--	95.31	2.27	--	--	1.10
1.50x1.60	1.36	27.88	--		96.66	2.63	--	--	1.35
1.60x1.70	0.65	38.91			97.31	2.87	--	--	1.42
1.70x1.80	0.44	47.21			97.76	3.07	--	--	1.34
1.80x1.90	0.36	54.16			98.11	3.26	--	--	1.73
1.90 SNK	1.89	78.50			100.00	4.68	--	--	1.35
	100.00								

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION,
ATTN : DAVID FAWCETT
PROJECT: BULK SAMPLE

WSH 94002

FILE #: 3 6 7 7
DATE : AUGU

SAMPLE ID : SEAM 6-C

FRACTION SIZE : 28 x 100 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	----------FRACTIONAL----------				----------CUMULATIVE----------				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.35 FLT	76.43	0.00	--	--	76.43	0.00	--	--	3.30
1.35x1.40	11.60	0.00	--	--	88.03	0.00	--	--	1.14
1.40x1.50	5.72	0.00	--	--	93.74	0.00	--	--	1.71
1.50x1.60	1.67	0.00	--	--	95.41	0.00	--	--	1.87
1.60 SINK	4.59	0.00			100.00	0.00	--	--	1.82
	100.00								

Appendix 2.5

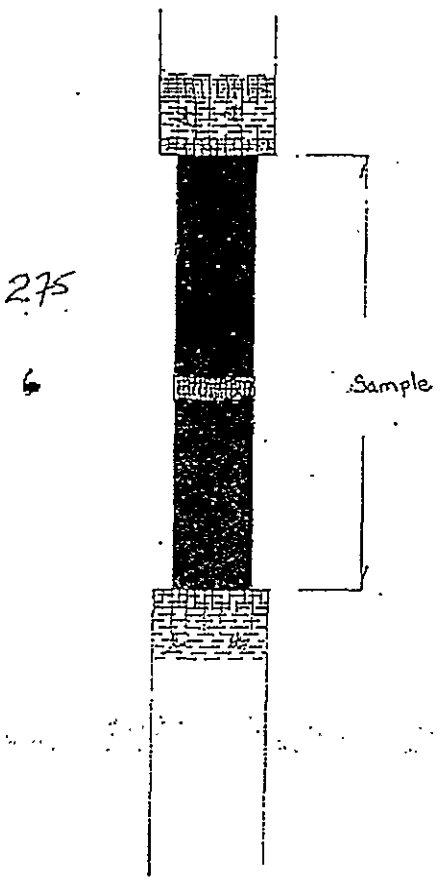
Summer Program

WSH 94002

6 Seam

Bulk Sample

TRUE THICKNESS



DESCRIPTION

0.15	Coaly Shale
	Shale, dark grey to black, carbonaceous
0.10	Shale, black, carbonaceous, crumbly/friable
1.40	Coal, CA ?, very dull., banding not readily evident solid core, woody appearance.
0.15	Coal, CC ~ CD, dull, hard, "bone"
1.18	Coal, CA ?, very dull, solid core, coal appears very woody in appearance.
0.12	Shale, black, very carbonaceous, core broken.
0.25	Shale, dark grey to black, with carbonaceous plant fragments. BCN ~ 32° Core semi-solid.

WSH94002

#6 SEAM
CENTRAL
BULK CORE SAMPLE

Vertical Scale : 1:50

Date : June 5/95
Drawn By : K.T. James.

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax 275-0541

TO : GLOBALTEX INDUSTRIES INC. WSH 94003
ATTN : DAVID FAWCETT

FILE #: 36773
DATE : AUGUST 31, 1994
PAGE : 1

PROJECT : Seam 6-1 Bulk Sample 6-2

SAMPLE SEAM	BASIS	PROXIMATE ANALYSIS % H2O	V.M.	ASH	F.C.	S	KJ/Kg	F.S.I.	H.G.I.
HEAD 6-1	A.R.	2.60	14.50	6.25	76.65	0.52	32661		
	A.D.	1.64	14.64	6.31	77.41	0.53	32983	0.0	73
	Dry	----	14.88	6.42	78.70	0.54	33533		
Seam Comp Product	A.D.	1.01	14.00	3.76	81.23	0.57	--	0.0	71
	Dry	----	14.14	3.80	82.06	0.58	--		
Low S.G. Product	A.D.	0.85	14.49	2.98	81.68	0.57	34095	0.0	
	Dry	----	14.61	3.01	82.38	0.57	34387		

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : DAVID FAWCETT
PROJECT : BULK SAMPLE WSH 94003

FILE # : 36773
DATE : AUGUST 19, 1994
PAGE : 2

SCREEN ANALYSIS

SEAM 6

SCR.SIZE	% WT	H2O	% Dry Basis ASH	V.M.	F.C.	S	F.S.I.
Dry Screen							
+ 6 mm	55.82	1.52	4.00	14.34	81.66	0.52	0.0
6 x 3mm	18.06	1.29	5.99	14.45	79.57	0.53	0.0
3mm x 28mesh	15.20	1.05	6.31	15.27	78.42	0.58	0.0
Wet Screen							
28 x 100mesh	6.80	0.98	6.03	16.10	77.87	0.60	0.0
100 x 0 mesh	4.12	1.50	8.13	15.58	76.28	0.64	0.0
	100.00						

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

WSH 94003

LLL FILE # : 36773-1
DATE: SEPTEMBER 29, 1994

MINERAL ANALYSIS

SAMPLE ID	% In Ash										
	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	Undet.
Seam 6-2, Head	64.68	20.41	0.86	1.43	2.41	0.36	1.13	1.20	1.48	0.85	5.19
Low S.G. Product	52.88	26.46	0.66	1.69	4.28	0.73	2.72	0.27	2.63	2.42	5.26

ASH FUSION

SAMPLE ID	Reducing Atmosphere			
	Initial	Soften.	Hemisph	Fluid
Seam 6-2, Head	1358	1452+	1452+	1452+
Seam Comp Product	1394	1429	1437	1452+
Low S.G. Product	1279	1363	1405	1452

(Temperatures in Centigrade)

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION WSH 94003
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 7 7 3 - 1
DATE : SEPTEMBER 29, 1994

FORMS OF SULPHUR

SEAM 6	------ %S (Air Dried) ------- Total	Pyrit.	SO4	Org. S
Head	0.53	0.03	<0.01	0.50
Seam Comp Product	0.57	0.02	<0.01	0.55
+3 mm Cum.1.90 FLT	0.52	0.02	0.01	0.49
3mm x 28mesh, 1.90 Cum. FLT	0.55	0.02	<0.01	0.53

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

WSH 94003

LLL FILE #: 3 6 7 7 3 - 1
DATE : SEPT 29, 1994
PAGE : 3

ULTIMATE ANALYSIS

SEAM 6	% Air Dried						
	H2O	C	H	N	ASH	S	O
Low S.G. Product	0.85	87.14	3.86	0.84	2.98	0.57	3.76

Note : Hydrogen and oxygen do not include H and O from sample moisture.
Value of oxygen by difference.

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION,
ATTN : DAVID FAWCETT
PROJECT: BULK SAMPLE WSH 94003

PAGE 4

FILE #: 3 6 7 7 3
DATE : SEPT 30, 1994

SAMPLE ID : # 6 - 2

FRACTION SIZE : + 3.0 (mm)

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.02	N.S.S.	N.S.S.	N.S.S.	0.02	N.S.S.	N.S.S.	--	0.00
1.25x1.30	15.14	3.11	16.02	0	15.15	3.11	0	--	0.72
1.30x1.35	75.97	3.18	14.65	0	91.13	3.17	0	--	0.90
1.35x1.40	6.31	5.99	15.02	0	97.44	3.35	0	0.51	0.77
1.40x1.50	0.60	17.64			98.03	3.44	0	--	0.83
1.50x1.60	0.18	28.40			98.22	3.48	0	0.51	0.73
1.60x1.70	0.16	38.75			98.37	3.54	0	--	0.77
1.70x1.80	0.18	47.87			98.55	3.62	0	--	0.75
1.80x1.90	0.19	55.48			98.75	3.72	0	0.52	0.87
1.90 SNK	1.25	75.02			100.00	4.62	0	--	1.06
	100.00								

FRACTION SIZE : 3.0 (mm) x 28 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	FRACTIONAL				CUMULATIVE				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.25 FLT	0.01	1.53	N.S.S.	0	0.01	1.53	0	--	0.52
1.25x1.30	22.31	2.43	16.66	2	22.33	2.43	2	--	0.76
1.30x1.35	39.44	3.40	15.30	0	61.76	3.05	1	--	0.79
1.35x1.40	24.02	3.57	15.43	0	85.79	3.20	0.5	0.54	1.27
1.40x1.50	7.98	7.25	15.35	0	93.77	3.54	0	--	1.04
1.50x1.60	1.01	25.34		0	94.77	3.77	0	0.54	0.93
1.60x1.70	0.66	36.56		0	95.43	4.00	0	--	1.10
1.70x1.80	0.52	47.33		0	95.96	4.24	0	--	0.87
1.80x1.90	0.45	55.02		0	96.41	4.47	0	0.55	0.92
1.90 SNK	3.59	70.29		0	100.00	6.84	0	--	1.66
	100.00								

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION,
ATTN : DAVID FAWCETT
PROJECT: BULK SAMPLE WSH 94003

PAGE 5

FILE #: 3 6 7 7 3
DATE : SEPT 30, 1994

SAMPLE ID : # 6 - 2

FRACTION SIZE : 28 x 100 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC	----------FRACTIONAL----------				----------CUMULATIVE----------				AIR DRIED
GRAVITY	WT%	ASH%	VOL%	FSI	WT%	ASH%	FSI	TOTAL S	MOISTURE%
1.35 FLT	77.64	2.68	16.14	0	77.64	2.68	0	--	1.54
1.35x1.40	8.00	4.46	15.01	0	85.63	2.85	0	0.59	1.33
1.40x1.50	7.82	7.73	14.58	0	93.45	3.26	0	--	1.45
1.50x1.60	1.65	22.36	13.86		95.10	3.59	0	0.60	1.38
1.60 SINK	4.90	65.65			100.00	6.63	0	--	1.32
	100.00								

Appendix 2.6

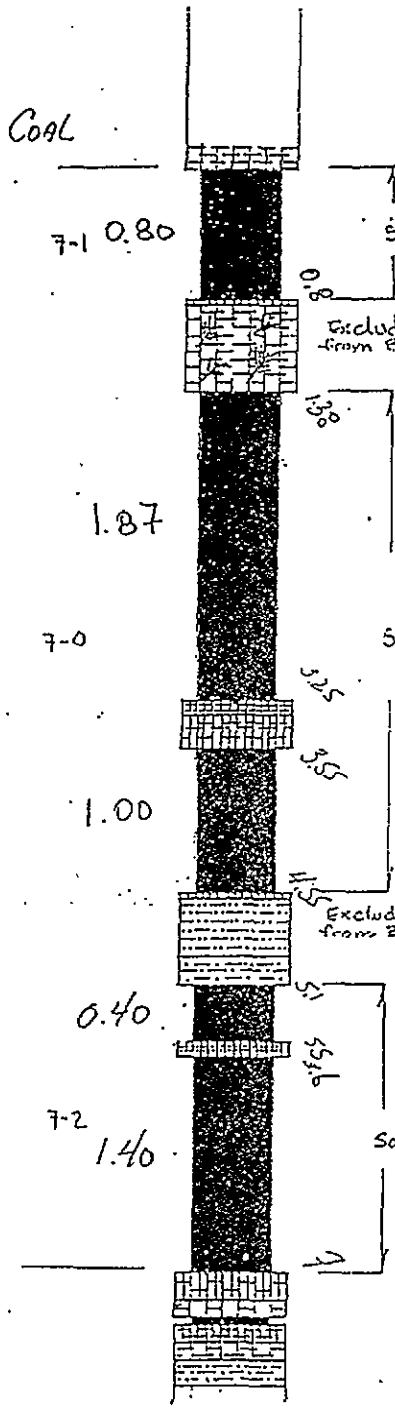
Summer Program

WSH 94001

7 Seam

Bulk Sample

TRUE THICKNESS



	DESCRIPTION
0.13	Shale, dark grey to black, carbonaceous
0.78	Coal, CA, dull, solid core. <5% vitrain
0.03	Shale, black, carbonaceous, soft.
0.55	Shale, medium grey, carbonaceous plant frags. hard. (crumbles after 1 month exposure)
1.95	Coal, CA, dull, solid core, <5% vitrain
0.10	Shale, black, "bone coal", soft & friable
0.20	Shale, black, carbonaceous, soft & friable
0.90	Coal, CA, dull
0.02	Shale, black, carbonaceous
0.35	Siltstone, medium grey, sandy, banded, vigourous HCl
0.17	Shale, medium grey, sandy
0.36	Coal, CA
0.09	Shale, black, carbonaceous, soft & friable
1.40	Coal, CA, dull
0.17	Shale, black to dark grey, carbonaceous,
0.11	Shale, dark grey, carbonaceous plant fragments
0.05	Coal, CA
0.12	Shale, black, abundant coaly fragments/seamlets.
0.11	Shale, dark grey, sheared
0.15	Shale, medium grey, silty, banded.

WSH94001

#7 SEAM
CENTRAL
BULK CORE SAMPLE

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC. WSH 94001
ATTN : DAVID FAWCETT
PROJECT : Seam 7 Bulk Sample

LLL FILE #: 3 6 6 6 0
DATE : JULY 12, 1994
PAGE : 1

PROXIMATE ANALYSIS

SAMPLE	SEAM	BASIS	H2O %	V.M. %	ASH %	F.C. %	S %	KJ/Kg	F.S.I.	H.G.I.
		A.R.	2.23	14.46	15.91	67.40	0.60	29325		
HEAD	7	A.D.	1.27	14.60	16.07	68.06	0.61	29614	0.5	70
		Dry	----	14.79	16.28	68.94	0.62	29995		
Seam Comp Product		A.D.	0.81	16.51	6.90	75.78	0.66	--	0.5	69
		Dry	----	16.64	6.96	76.40	0.67	--		
Low S.G. Product		A.D.	0.83	17.72	2.34	79.11	0.49	34578	0.5	--
		Dry	----	17.87	2.36	79.77	0.49	34867		

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX INDUSTRIES INC.
ATTN : DAVID FAWCETT
PROJECT : BULK SAMPLE

FILE # : 3 6 6 6 0
DATE : JULY 14, 1994

SCREEN ANALYSIS

SEAM 7

SCR.SIZE	WT %	H2O %	ASH % Dry Basis	V.M. % Dry Basis	F.C. % Dry Basis	S % Dry Basis	F.S.I.
Dry Screen							
+ 6 mm	52.88	1.15	14.95	13.74	71.31	0.57	0.5
6 x 3mm	19.48	1.17	16.87	13.73	69.40	0.64	0.5
3mm x 28mesh	16.91	1.11	14.72	14.46	70.82	0.68	0.5
Wet Screen							
28 x 100mesh	6.82	0.80	15.57	14.60	69.83	0.69	0.5
100 x 0 mesh	3.91	0.93	17.50	14.48	68.01	0.96	0.0
	100.00						

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

FILE #: 3 6 6 6 0
DATE: July 28, 1994

TO: GLOBALTEX COAL LTD.

PROJECT: BULK SAMPLE

LAB ANALYSIS CODE (FROTH, FLOAT) _FLOAT_

SAMPLE ID: # 7 Seam

FRACTION SIZE : + 3.0 (mm)

ANALYSIS BASIS TYPE : DRY

SPECIFIC GRAVITY	FRACTIONAL WT%	FRACTIONAL ASH%	FRACTIONAL VOL%	FRACTIONAL FSI	CUMULATIVE WT%	CUMULATIVE ASH%	AIR DRIED MOISTURE	WT.GM.
1.25 FLT	0.00	0.00	0.00	--	0.00	0.00	0.00	0.69
1.25x1.30	11.14	1.91	18.23	1.5	11.14	1.91	0.85	6600.00
1.30x1.35	69.36	2.14	16.84	1.0	80.50	2.11	0.86	41100.00
1.35x1.40	2.27	9.10	16.70	1.0	82.77	2.30	1.01	1347.29
1.40x1.50	0.80	17.93	16.36	--	83.57	2.45	0.96	471.64
1.50x1.60	0.77	29.44	15.84	--	84.34	2.69	1.03	455.72
1.60x1.70	0.64	38.65	0.00	--	84.97	2.96	1.09	377.94
1.70x1.80	0.64	48.43	0.00	--	85.61	3.30	1.47	377.13
1.80x1.90	0.80	55.79	0.00	--	86.41	3.79	1.33	473.80
1.90 SNK	13.59	84.28	0.00	--	100.00	14.73	1.32	8052.38

SAMPLE ID: # 7 Seam

FRACTION SIZE : 3.0 (mm) x 28 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC GRAVITY	FRACTIONAL WT%	FRACTIONAL ASH%	FRACTIONAL VOL%	FRACTIONAL FSI	CUMULATIVE WT%	CUMULATIVE ASH%	AIR DRIED MOISTURE	WT.GM.
1.25 FLT	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
1.25x1.30	25.36	2.24	18.37	1.5	25.36	2.24	0.86	757.25
1.30x1.35	50.23	2.56	15.96	1.0	75.59	2.45	0.87	1499.77
1.35x1.40	4.81	6.96	15.77	1.0	80.40	2.72	1.15	143.65
1.40x1.50	1.80	16.99	15.59	--	82.20	3.03	1.16	53.84
1.50x1.60	1.15	29.26	15.28	--	83.35	3.40	1.23	34.34
1.60x1.70	1.01	38.44	0.00	--	84.36	3.82	1.40	30.08
1.70x1.80	0.85	46.23	0.00	--	85.22	4.24	1.59	25.49
1.80x1.90	0.98	53.64	0.00	--	86.20	4.80	1.49	29.28
1.90 SNK	13.80	71.03	0.00	--	100.00	13.94	1.31	412.17

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

FILE #: 3 6 6 6 0
DATE : July 28, 1994

TO: GLOBALTEX COAL LTD.

PROJECT: BULK SAMPLE

LAB ANALYSIS CODE (FROTH, FLOAT) _FLOAT_

SAMPLE ID: # 7 Seam

FRACTION SIZE : 28 x 100 Mesh

ANALYSIS BASIS TYPE : DRY

SPECIFIC GRAVITY	FRACTIONAL WT%	FRACTIONAL ASH%	FRACTIONAL VOL%	FSI	CUMULATIVE - WT%	CUMULATIVE - ASH%	AIR DRIED MOISTURE	WT.GM.
1.35 FLT	73.93	2.38	17.50	0.5	73.93	2.38	1.37	1500.65
1.35x1.40	3.55	7.64	16.01	0.0	77.48	2.62	1.12	72.07
1.40x1.50	2.96	15.86	15.72	0.0	80.44	3.11	1.54	60.18
1.50x1.60	1.48	26.81	15.54	--	81.92	3.54	1.38	29.95
1.60 SINK	18.08	65.34	0.00	--	100.00	14.71	1.20	367.06

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

WSH 94001

LLL FILE # : 36660
DATE : AUGUST 12, 1994

MINERAL ANALYSIS

SAMPLE ID	% In Ash										
	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	Undet.
Seam 7, Head	68.40	18.52	0.85	2.90	1.29	0.83	0.66	2.11	0.32	0.90	3.42
Seam Comp Product	63.64	19.85	0.85	3.55	1.78	0.68	0.89	1.78	0.75	0.87	5.36
Low S.G. Product	50.22	23.63	1.08	2.80	7.21	0.23	2.24	0.24	1.34	5.17	5.84

ASH FUSION

SAMPLE ID	Reducing Atmosphere			
	Initial	Soften.	Hemisph	Fluid
Seam 7, Head	1236	1402	1423	1452+
Seam Comp Product	1131	1342	1371	1452+
Low S.G. Product	1134	1310	1331	1408

(Temperatures in Centigrade)

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION WSH 9400
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 6 6 0
DATE : AUGUST 12, 1994

FORMS OF SULPHUR

SEAM 7	%S (Air Dried) Total	Pyrit.	SO4	Org. S
Head	0.61	0.07	<0.01	0.54
Seam Comp Product	0.66	0.07	0.01	0.59
+3 mm Cum.1.90 FLT	0.59	0.03	<0.01	0.56
3mm x 28mesh, 1.90 Cum. FLT	0.66	0.06	<0.01	0.60

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 6 6 0
DATE : AUGUST 12, 1994
PAGE : 8

ULTIMATE ANALYSIS

	% Air Dried						
SEAM 7	H2O	C	H	N	ASH	S	O
Low S.G. Product	0.83	87.11	4.57	1.04	2.34	0.49	3.62

Note : Hydrogen and oxygen do not include H and O from sample moisture.
Value of oxygen by difference.

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 6 6 0
DATE : AUGUST 12, 1994
PAGE : 9

--------- DILATATION TEST ---------

SAMPLE ID	ST MDT (Deg.Celsius)	MC%	MD%	G
SEAM 7 Low S.G. Product	NO ACTIVITY			

--------- GIESELER FLUIDITY TEST ---------

SAMPLE ID	START DDPM (Deg.C.)	MAXIMUM DDPM (Deg.C.)	FINAL DDPM (Deg.C.)	RANGE
SEAM 7 Low S.G. Product	NO ACTIVITY			

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

File No. : 36660
Client : GLOBALTEX COAL

SEAM #7 BULK SAMPLE - DROP SHATTER TEST

SCREEN OPENINGS, mm RETAINED ON	PASSING	WEIGHT BEFORE gm	WEIGHT AFTER gm	WT % BEFORE TEST	WT % AFTER TEST	AVERAGE OF SIEVE OPENINGS, mm		PRODUCT OF WT % AND OF AVG. SIEVE OPENINGS BEFORE TEST	PRODUCT OF WT % AND OF AVG. SIEVE OPENINGS AFTER TEST
25	75	14504.83	12501.15	60.83	52.53	50		3041.64	2626.45
12.5	25	1925.14	2388.14	8.07	10.03	18.75		151.39	188.15
6	12.5	1927.39	2426.53	8.08	10.20	9.25		74.77	94.31
3	6	1884.17	2215.32	7.90	9.31	4.5		35.56	41.89
	3	3602.26	4267.44	15.11	17.93	1.5		22.66	26.90
								S	s
		23843.79	23798.58	100	100		TOTAL	3326.02	2977.70

SIZE STABILITY, % = (100 x s)/S = 89.5

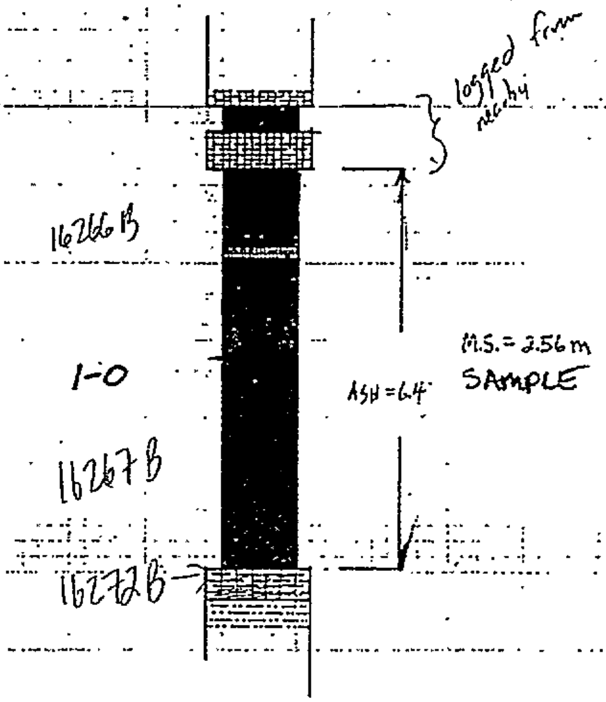
FRIABILITY, % = 100 - SIZE STBILITY = 10.5

Appendix 2.7

Summer Program

Other Core

TRUE THICKNESS



DESCRIPTION

Shale, black, carbonaceous, platy,
Coal, CA, ?bright
Shale, black, very carbonaceous, friable
CONCB, dull - occasional bright, hard
CCNCD, dull, hard.
Coal, CA,
Coal, CA,
Coal, CA, vitrain-rich
Coal, CA, vitrain rich.
Shale, dk grey to black, coaly, ?, coaly
Siltstone, medium to dark grey, vigorous HCl reaction.

NOTE: ① Observations of nearby trenches indicate that roof & floor rock breakdown under atmospheric conditions. The rock becomes friable with abundant fines produced.
② Bentonite was not observed.

WSH94005

#1 SEAM
CENTRAL
DRILLCORE SAMPLE

Vertical Scale: 1:50	Date: Jan. 5, 95 Drawn By: K.T. James

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO : GLOBALTEX COAL CORPORATION
ATTN : DAVID FAWCETT
PROJECT : DRILL CORES

LLL FILE # : 3 6 8 6 3
DATE : OCTOBER 3, 1994
REPORT BY : DAVID KO

SAMPLE TYPE : RAW COAL

SAMPLE ID	BASIS	H2O (%)	V.M. (%)	ASH (%)	F.C. (%)	S (%)	FSI
WSH 94004							
16255B,16256B	A.R.	1.55	19.25	6.24	72.96	0.60	
#4 SEAM	A.D.	0.83	19.39	6.29	73.49	0.60	3.0
	D.B.	-------	19.55	6.34	74.11	0.61	
WSH 94005							
16266B,16267B	A.R.	4.21	20.26	6.24	69.29	0.43	
#1 SEAM	A.D.	0.67	21.01	6.47	71.85	0.45	1.5
	D.B.	-------	21.15	6.51	72.33	0.45	
WSH 94006							
16268B,16270B	A.R.	2.64	18.08	29.00	50.28	0.47	
#2 SEAM	A.D.	0.60	18.46	29.61	51.33	0.48	1.5
	D.B.	-------	18.57	29.79	51.64	0.48	
WSH 94006							
16273B,16275B	A.R.	2.60	19.27	10.28	67.85	0.45	
#3 SEAM	A.D.	0.60	19.67	10.49	69.24	0.46	4.0
	D.B.	-------	19.79	10.55	69.66	0.46	
WSH 94047C							
16286B	A.R.	2.35	14.26	14.26	69.14	0.65	
#7 SEAM	A.D.	0.61	14.51	14.51	70.37	0.66	1.5
	D.B.	-------	14.60	14.60	70.80	0.66	
WSH 94047C							
16288B,16289B	A.R.	2.65	13.75	8.92	74.68	1.00	
#8 SEAM	A.D.	0.91	14.00	9.08	76.01	1.02	0.0
	D.B.	-------	14.13	9.16	76.71	1.03	

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION
ATTN : DAVID FAWCETT
PROJECT : DRILL CORES FLOATS

LLL FILE# 36863-2
DATE : Oct 28, 1994
REPORT BY : DAVID KO

SAMPLE TYPE : SINK/FLOAT

SAMPLE ID	WT%	A.D. %H20	% Dry Basis ASH	V.M.	F.C.	% S	F.S.I.
16255B,16256B WSH 94004 **#4 SEAM**							
1.60 FLOAT	94.18	1.09	2.51	20.27	77.22	0.51	3.0
SINK	5.82	1.04	61.29				
	100.00						
16266B,16267B WSH 94005 **#1 SEAM**							
1.60 FLOAT	96.09	0.83	2.98	21.81	75.20	0.45	2.5
SINK	3.91	0.94	68.59				
	100.00						
16268B,16270B WSH 94006 **#2 SEAM**							
1.60 FLOAT	64.99	0.73	5.33	20.30	74.37	0.55	3.5
SINK	35.01	0.91	72.57				
	100.00						
16273B,16275B WSH 94006 **#3 SEAM**							
1.60 FLOAT	89.55	0.84	5.02	20.31	74.67	0.43	4.0
SINK	10.45	0.90	49.95				
	100.00						
16286B WRH 94047C **#7 SEAM**							
1.60 FLOAT	85.15	0.63	5.42	14.69	79.88	0.66	1.5
SINK	14.85	1.03	70.44				
	100.00						
16288B,16289B WRH 94047C **#8 SEAM**							
1.60 FLOAT	89.91	0.58	3.15	14.05	82.80	1.00	1.0
SINK	10.09	0.92	72.65				
	100.00						

Loring Laboratories Ltd.

629 Beaverdam Road N.E.,
Calgary Alberta T2K 4W7
Tel: 274-2777 Fax: 275-0541

TO: GLOBALTEX COAL CORPORATION
ATTN : DAVE FAWCETT

LLL FILE #: 3 6 8 6 3
DATE : OCTOBER 3, 1994
REPORT BY: DAVID KO

FORMS OF SULPHUR

SAMPLE ID		%S (Air Dried) Total	Pyrit.	SO4	Org. S	H.G.I.
16255B,16256B #4 SEAM	WSH 94004	0.60	0.12	0.03	0.45	104
16266B,16267B #1 SEAM	WSH 94005	0.45	0.06	<0.01	0.39	79
16268B,16270B #2 SEAM	WSH 94006	0.48	0.27	0.01	0.20	81
16273B,16275B #3 SEAM	WSH 94006	0.46	0.05	<0.01	0.41	80
16286B #7 SEAM	WRH 94047C	0.66	0.02	<0.01	0.64	---
16288B,16289B #8 SEAM	WRH 94047C	1.02	0.24	<0.01	0.78	---

Appendix 2.8

Winter Program

Petrographic Analysis

Coal and Coke Laboratories
4000 Tech Center Drive
Monroeville, PA 15146
412 825 2601
Telex: 86 6425 or 90 2886

UEC
USX Engineers
& Consultants, Inc.

June 8, 1994

Mr. David Fawcett
President
Globaltex Coal Corporation
Suite 350
625 Howe Street
Vancouver, British Columbia
CANADA V6C 2T6

Dear Dave:

Two small coal samples were received at the UEC Coal & Coke Lab on 5/31/94 for petrographic analysis per your letter of request. The samples were identified as No. 4 Seam and No. 7 Seam and assigned UEC No.'s 32691 and 32692 respectively upon arrival. These both represent 1.60 Float, lab-washed core samples sent for a preliminary analysis in advance of bulk samples. The objective for this advance analysis is to roughly identify the coals potential for coke making as weak (semi-soft) coking or prime coking coal.

Tables I and II show the petrographic analyses for each coal. Both coal petrographic analyses have been shown according to the US Steel Method and the commonly accepted way of reporting W. Canadian Coals (*semifusinite being 1/2 reactive & 1/2 inert*). In addition, some microscopic observations were made relative to oddities present. An iso-stability graph is also attached to show each coals position for expected coke strength as a function of composition balance and rank indices.

As with most W. Canadian Coals, these samples are relatively high in inertinite, particularly the No. 7 Seam. The semi-inerts, however, are close in reflectance to the vitrinite in the coals. In addition, most of the micrinite is inertodetrinite and semi-inertodetrinite which is more easily incorporated and bonded by reactive macerals.

Based on the preliminary analysis, the No. 4 Seam is a medium-volatile coal by reflectance and appears to be a candidate for use in coking blends in significant proportions or could be combined with other seams such as the No. 7 Seam. The No. 7 Seam is a low-volatile coal and, being very high in inertinite, could only be used with other coals and in smaller percentages to avoid coke strength and bonding propensity reductions.

The coals do have potential for coke making. The extent and verification of their potential alone and in blends would require more detailed testing similar to what has been planned for the bulk samples.

We are looking forward to receiving your additional core samples (No. 1 and No.6 Seams) and the bulk samples later. If you would like to discuss this further, please call me. Thank you for using our lab for you special testing needs.

Best regards,

Kevin F. DeVanney

Kevin F. DeVanney
Mgr. - Marketing, Sales, &
Technical Services

Attachments

UEC
USX Engineers
& Consultants, Inc.

Table I

PETROGRAPHIC ANALYSES OF GLOBALTEX COAL CORP. COAL SAMPLES

UEC Project No. 455

WRH 94017C

COAL IDENTIFICATION: No. 4 Seam, 1.60 SG-Float, Lab Washed

UEC No.: 32691

	USS Method	*Canadian Method*
Petrographic Analysis		
Maceral Composition, (*vol.%*)		
Reactives		
V-Types 12	3.8	3.8
13	26.4	26.4
14	20.5	20.5
15	3.2	3.2
16	-	-
17	-	-
18	-	-
19	-	-
Vitrinite	53.9	53.9
Exinite	1.1	1.1
Resinite	0.0	0.0
Semifusinite	5.5 (*1/4*)	10.9 (*1/2*)
Total Reactives	60.5	65.9
Inerts		
Semifusinite	16.3 (*3/4*)	10.9 (*1/2*)
Micrinite	12.7	12.7
Fusinite	7.7	7.7
Mineral Matter	2.8	2.8
Total Inerts	39.5	34.1
Composition Balance Index	3.58	2.98
Rank Index	6.02	6.26
Mean Max. Vit. Reflectance,%	1.39	1.39
Calculated Stability Factor	49	54

Misc. Microscopic Observations	
Pseudovitrinite	Present
Fines (<*5μm*)	Present
Coarse Min. Matt.& Bone (>*50μm*)	Present (*Carb.,Shale,Pyr.*)
Brecciated Coal:	Present
Oxidized Coal:	Trace
Contamination: type:	Trace (*HV*)

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Table II

PETROGRAPHIC ANALYSES OF GLOBALTEX COAL CORP. COAL SAMPLES

UEC Project No. 455

WRH 94034C

COAL IDENTIFICATION: No. 7 Seam, 1.60 SG-Float, Lab Washed

UEC No.: 32692

	USS Method	*Canadian Method*
Petrographic Analysis		
Maceral Composition, (*vol.%*)		
Reactives		
V-Types 12	-	-
13	-	-
14	0.3	0.3
15	4.8	4.8
16	12.3	12.3
17	11.3	11.3
18	2.3	2.3
19	1.3	1.3
Vitrinite	32.3	32.3
Exinite	0.9	0.9
Resinite	0.0	0.0
Semifusinite	7.0 (*1/5*)	17.4 (*1/2*)
Total Reactives	40.2	50.6
Inerts		
Semifusinite	27.8 (*4/5*)	17.4 (*1/2*)
Micrinite	18.4	18.4
Fusinite	11.1	11.1
Mineral Matter	2.5	2.5
Total Inerts	59.8	49.4
Composition Balance Index	>10.00	>10.00
Rank Index	6.54	6.83
Mean Max. Vit. Reflectance,%	1.69	1.69
Calculated Stability Factor	0	0

Misc. Microscopic Observations

Pseudovitrinite	Present
Fines (<5μm)	Present
Coarse Min. Matt.& Bone (>50μm)	Present (*Carb.,Shale,Pyr.*)
Brecciated Coal:	Present
Oxidized Coal:	Present
Contamination: type:	Trace (*HV & Wood?*)

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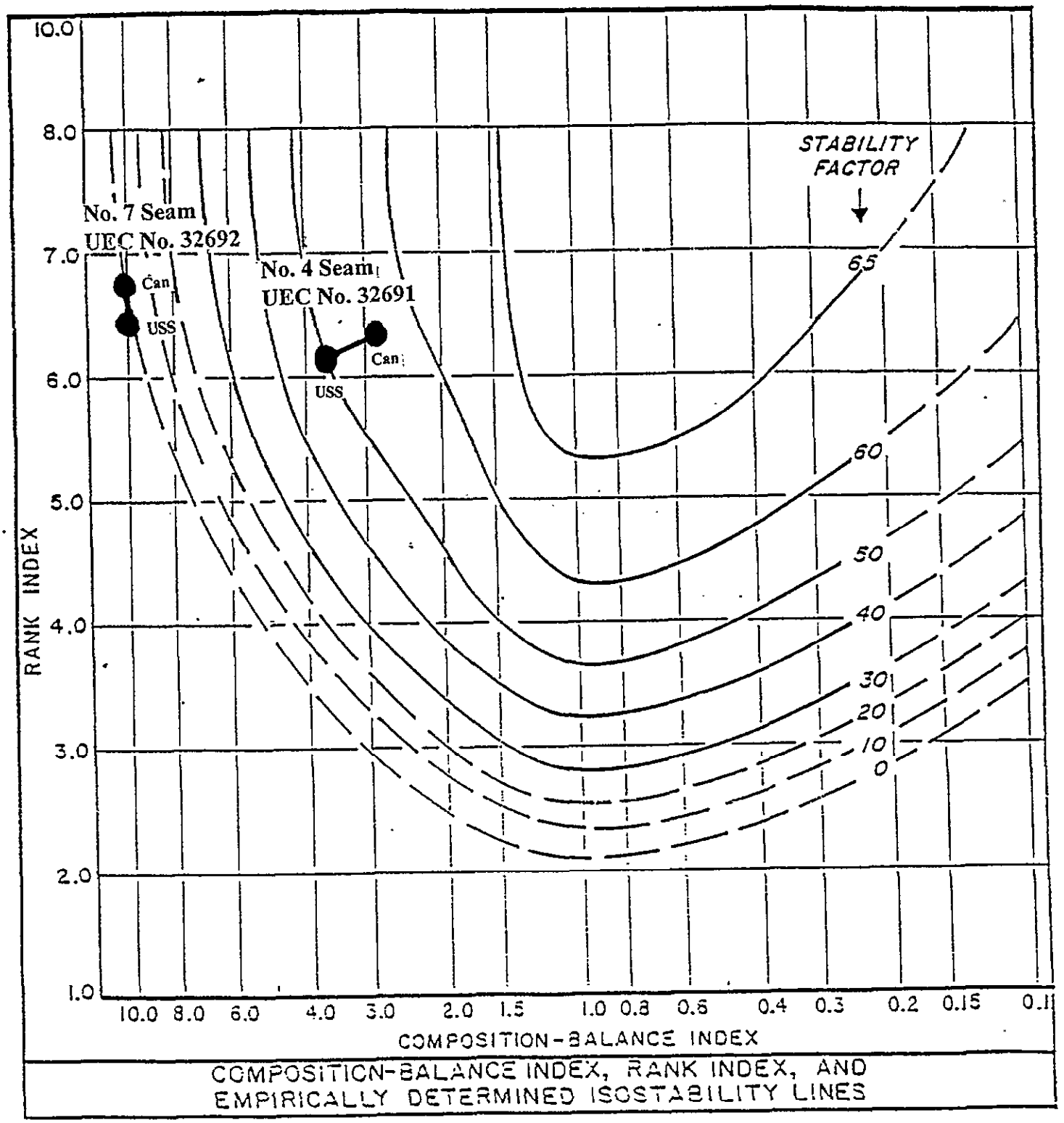
U.S.STEEL COKE STABILITY GRAPH

(after Schapiro & Gray, 1963)



COMPOSITION-BALANCE INDEX, RANK INDEX, AND EMPIRICALLY DETERMINED ISOSTABILITY LINES

Appendix 2.9

Summer Program

Petrographic Analysis

Coal and Coke Laboratories
4000 Tech Center Drive
Monroeville, PA 15146
412 825 2601
Telex: 86 6425 or 90 2886

UEC
USX Engineers
& Consultants, Inc.

November 1, 1994

Mr. David Fawcett
President
Globaltex Coal Corporation
Suite 350
625 Howe Street
Vancouver, British Columbia
CANADA V6C 2T6

Dear Dave:

Six small coal samples (~50 grams, ½" by 0, each) were received at the UEC Coal & Coke Lab on 10/24/94 for petrographic analysis and ash and sulfur determinations per your request. The samples were all identified seam and as being 1.60 Float Lab No. 36863 (Seam No.'s 1, 2, 3, 4, 7, & 8). The samples were assigned UEC No.'s 35465 through 35470 respectively upon arrival. These samples represent 1.60 Float, lab-washed core samples sent for a preliminary analysis in advance of bulk samples. The objective for this advance analysis is to roughly identify the coals potential for coke making as weak (semi-soft) coking or prime coking coal.

Tables I through VI show the petrographic analyses, ash content, and sulfur content for each coal sample. The coal petrographic analyses are shown according to the US Steel Method and the commonly accepted way of reporting W. Canadian Coals (*semifusinite being 1/2 reactive & 1/2 inert*). In addition, some microscopic observations were made relative to oddities present. An iso-stability graph is also attached to show each coals position for expected coke strength as a function of composition balance and rank indices.

As with most W. Canadian Coals, these samples are relatively high in inertinite, particularly the No. 8 Seam. Most semi-inerts, however, are close in reflectance to the vitrinite in the coals. In addition, most of the micrinite is inertodetrinite and semi-inertodetrinite which is more easily incorporated and bonded by reactive macerals.

Based on the preliminary analysis, the No. 1, 2, 3, & 4 Seams are medium-volatile coal by reflectance and appear to be candidates for use in properly tailored coking coal blends. The No. 7 and 8 Seams are very high inert, high reflectance low-volatile coals. It is expected that these coals (No 7 & No. 8 Seams) would have poor rheological properties and could only be used with other high fluidity coals and in very small percentages to avoid coke strength and bonding propensity reductions.

The extent and verification of their potential alone and in blends would require more detailed testing similar to what has been planned for the bulk samples.

We are looking forward to receiving your bulk samples in the near future. If you would like to discuss these results, please call me. Thank you for using our lab for you special testing needs.

Best regards,

Kevin F. DeVanney

Kevin F. DeVanney
Mgr. - Marketing, Sales, &
Technical Services

Attachments

UEC
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Table I

PETROGRAPHIC, ASH, AND SULFUR ANALYSES OF GLOBALTEX COAL SAMPLES

UEC Project No. 455

WSH 94005

COAL IDENTIFICATION: No. 1 Seam, 1.60 Float, Lab. No.36863

UEC No.: 35465

	USS Method	*Canadian Method*
PETROGRAPHIC ANALYSIS		
Maceral Composition, (*vol.%*)		
Reactives		
V-Types 11	6.3	6.3
12	29.5	29.5
13	7.6	7.6
14	1.3	1.3
Vitrinite	44.7	44.7
Exinite	1.3	1.3
Resinite	0.1	0.1
Semifusinite	8.0 (*1/4*)	16.1 (*1/2*)
Total Reactives	54.1	62.2
Inerts		
Semifusinite	24.2 (*3/4*)	16.1 (*1/2*)
Micrinite	10.9	10.9
Fusinite	8.9	8.9
Mineral Matter	1.9	1.9
Total Inerts	45.9	37.8
Composition Balance Index	3.31	2.57
Rank Index	4.71	5.11
Mean Max. Vit. Reflectance,%	1.26	1.26
Calculated Stability Factor	38	50
Misc. Microscopic Observations		
Pseudovitrinite	Present	
Fines (<5μm)	Present	
Coarse Min. Matt.& Bone (>50μm)	Trace (siderite)	
Brecciated Coal:	Trace (coarse)	
Oxidized Coal:	None	
Contamination: type:	None	
ASH CONTENT, (% dry)	3.25	
SULFUR CONTENT, (% dry)	0.49	

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Table II

PETROGRAPHIC, ASH, AND SULFUR ANALYSES OF GLOBALTEX COAL SAMPLES
UEC Project No. 455

WSH 94006

COAL IDENTIFICATION: No. 2 Seam 1.60 Float, Lab No. 36863

UEC No.: 35466

	USS Method	*Canadian Method*
PETROGRAPHIC ANALYSIS		
Maceral Composition, *(vol.%)*		
Reactives		
V-Types 11	1.2	1.2
12	17.7	17.7
13	32.4	32.4
14	7.7	7.7
Vitrinite	59.0	59.0
Exinite	0.9	0.9
Resinite	0.0	0.0
Semifusinite	4.0 (*1/4*)	8.1 (*1/2*)
Total Reactives	63.9	68.0
Inerts		
Semifusinite	12.2 (*3/4*)	8.1 (*1/2*)
Micrinite	12.1	12.1
Fusinite	8.2	8.2
Mineral Matter	3.6	3.6
Total Inerts	36.1	32.0
Composition Balance Index	2.55	2.21
Rank Index	5.52	5.70
Mean Max. Vit. Reflectance,%	1.33	1.33
Calculated Stability Factor	53	57
Misc. Microscopic Observations		
Pseudovitrinite	Present	
Fines (<5μm)	Abundant	
Coarse Min. Matt.& Bone (>50μm)	Present (silica bone, carbonates, pyrite)	
Brecciated Coal:	Present	
Oxidized Coal:	Trace (degree slight)	
Contamination: type:	None	
ASH CONTENT, (% dry)	6.27	
SULFUR CONTENT, (% dry)	0.64	

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Table III

PETROGRAPHIC, ASH, AND SULFUR ANALYSES OF GLOBALTEX COAL SAMPLES
UEC Project No. 455

WSH 94006

COAL IDENTIFICATION: No. 3 Seam, 1.60 Float, Lab No. 36863

UEC No.: 35467

	USS Method	*Canadian Method*
PETROGRAPHIC ANALYSIS		
Maceral Composition, *(vol.%)* :		
Reactives		
V-Types 12	7.6	7.6
13	26.5	26.5
14	9.9	9.9
15	0.9	0.9
Vitrinite	44.9	44.9
Exinite	0.9	0.9
Resinite	0.0	0.0
Semifusinite	7.2 (*1/4*)	14.4 (*1/2*)
Total Reactives	53.0	60.2
Inerts		
Semifusinite	21.6 (*3/4*)	14.4 (*1/2*)
Micrinite	11.8	11.8
Fusinite	10.3	10.3
Mineral Matter	3.3	3.3
Total Inerts	47.0	39.8
Composition Balance Index	4.60	3.71
Rank Index	5.52	5.83
Mean Max. Vit. Reflectance,%	1.36	1.36
Calculated Stability Factor	36	46
Misc. Microscopic Observations		
Pseudovitrinite	Present	
Fines (<5μm)	Present	
Coarse Min. Matt.& Bone (>50μm)	Present (carbonates, bone)	
Brecciated Coal:	Trace (coarse)	
Oxidized Coal:	None	
Contamination: type:	None	
ASH CONTENT, (% dry)	5.83	
SULFUR CONTENT, (% dry)	0.50	

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Table IV

PETROGRAPHIC, ASH, AND SULFUR ANALYSES OF GLOBALTEX COAL SAMPLES
UEC Project No. 455

WSH 94004

COAL IDENTIFICATION: No. 4 Seam, 1.60 Float, Lab No. 36863

UEC No.: 35468

	USS Method	*Canadian Method*
PETROGRAPHIC ANALYSIS		
Maceral Composition, (*vol.%*)		
Reactives		
V-Types 12	5.7	5.7
13	11.5	11.5
14	19.6	19.6
15	11.0	11.0
Vitrinite	47.8	47.8
Exinite	0.9	0.9
Resinite	0.0	0.0
Semifusinite	5.9 (*1/5*)	14.8 (*1/2*)
Total Reactives	54.6	63.5
Inerts		
Semifusinite	23.8 (*4/5*)	14.9 (*1/2*)
Micrinite	11.7	11.7
Fusinite	8.1	8.1
Mineral Matter	1.8	1.8
Total Inerts	45.4	36.5
Composition Balance Index	4.94	3.69
Rank Index	5.95	6.23
Mean Max. Vit. Reflectance,%	1.42	1.42
Calculated Stability Factor	38	50
Misc. Microscopic Observations		
Pseudovitrinite	Present	
Fines (<5μm)	Abundant	
Coarse Min. Matt.& Bone (>50μm)	Trace (carbonates, silica clay)	
Brecciated Coal:	Abundant (fine & coarse)	
Oxidized Coal:	None	
Contamination: type:	None	
ASH CONTENT, (% dry)	3.04	
SULFUR CONTENT, (% dry)	0.60	

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Table V

PETROGRAPHIC, ASH, AND SULFUR ANALYSES OF GLOBALTEX COAL SAMPLES
UEC Project No. 455

WRH940047C

COAL IDENTIFICATION: No. 7 Seam, 1.60 Float, Lab No. 36863

UEC No.: 35469

	USS Method	*Canadian Method*
PETROGRAPHIC ANALYSIS		
Maceral Composition, *(vol.%)*		
Reactives		
V-Types 16	8.3	8.3
17	22.1	22.1
18	14.7	14.7
19	0.9	0.9
Vitrinite	46.0	46.0
Exinite	0.3	0.3
Resinite	0.0	0.0
Semifusinite	5.8 (*1/5*)	14.4 (*1/2*)
Total Reactives	52.1	60.7
Inerts		
Semifusinite	23.1 (*4/5*)	14.5 (*1/2*)
Micrinite	15.4	15.4
Fusinite	5.8	5.8
Mineral Matter	3.6	3.6
Total Inerts	47.9	39.3
Composition Balance Index	>10.00	9.77
Rank Index	6.71	6.82
Mean Max. Vit. Reflectance,%	1.77	1.77
Calculated Stability Factor	0	1

Misc. Microscopic Observations	
Pseudovitrinite	Present
Fines (<5μm)	Present
Coarse Min. Matt.& Bone (>50μm)	Silica Bone
Brecciated Coal:	Trace (fine & coarse)
Oxidized Coal:	None
Contamination: type:	None
ASH CONTENT, (% dry)	6.27
SULFUR CONTENT, (% dry)	0.72

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Table VI

PETROGRAPHIC, ASH, AND SULFUR ANALYSES OF GLOBALTEX COAL SAMPLES
UEC Project No. 455

WRH940047C

COAL IDENTIFICATION: No.8 Seam, 1.60 Float, Lab No. 36863

UEC No.: 35470

	USS Method	*Canadian Method*
PETROGRAPHIC ANALYSIS		
Maceral Composition, (*vol.%*)		
Reactives		
V-Types 15	0.3	0.3
16	12.5	12.5
17	13.2	13.2
18	5.9	5.9
19	2.8	2.8
Vitrinite	34.7	34.7
Exinite	0.9	0.9
Resinite	0.0	0.0
Semifusinite	6.9 (*1/5*)	17.3 (*1/2*)
Total Reactives	42.5	52.9
Inerts		
Semifusinite	27.8 (*4/5*)	17.4 (*1/2*)
Micrinite	19.4	19.4
Fusinite	8.5	8.5
Mineral Matter	1.8	1.8
Total Inerts	57.5	47.1
Composition Balance Index	>10.00	>10.00
Rank Index	6.49	6.32
Mean Max. Vit. Reflectance,%	1.75	1.75
Calculated Stability Factor	0	0
Misc. Microscopic Observations		
Pseudovitrinite	Present	
Fines (*<5μm*)	Present	
Coarse Min. Matt.& Bone (*>50μm*)	Trace Bone, Fine Pyrite	
Brecciated Coal:	Present (fine & coarse)	
Oxidized Coal:	Trace (degree slight)	
Contamination: type:	None	
ASH CONTENT, (% dry)	2.98	
SULFUR CONTENT, (% dry)	0.97	

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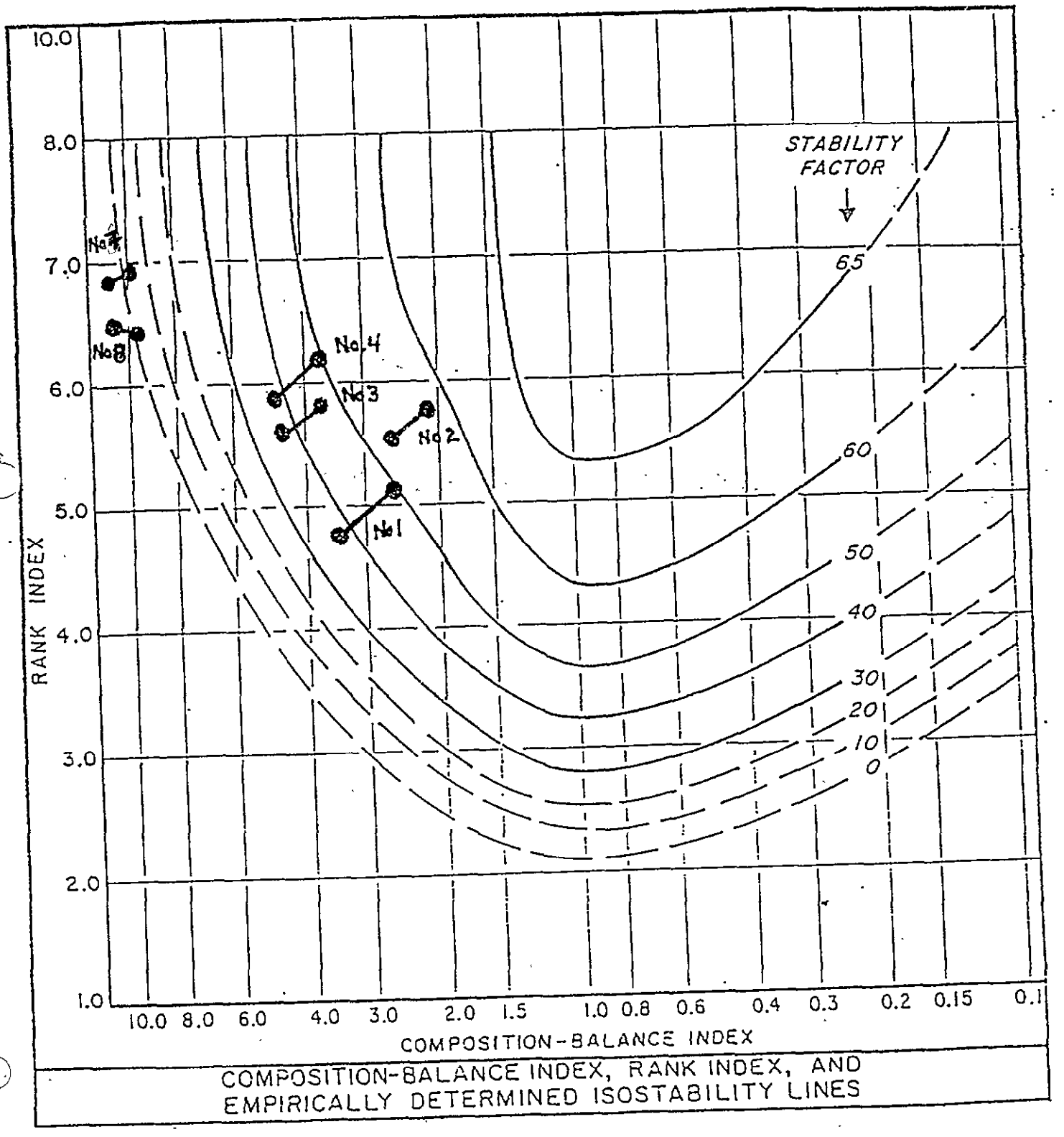
U.S.STEEL COKE STABILITY GRAPH

(after Schapiro & Gray, 1963)



COMPOSITION-BALANCE INDEX, RANK INDEX, AND EMPIRICALLY DETERMINED ISOSTABILITY LINES

Appendix 2.10

Summer Program

Coal Carbonization

GLOBALTEX COAL CORPORATION
COAL CARBONIZATION PROGRAM
MAY 1995

By: Kevin F. DeVanney
CoalTech USA, Inc.
Report: June 7, 1995

For: David Fawcett
Globaltex Coal Corporation

SUMMARY

A coal testing and pilot-oven carbonization test program was conducted for Globaltex Coal Corporation in May 1995. The test program consisted of preparing and testing one multi-seam bulk sample designated in this report as 50/50 No.1 & No.4 Seams. The main purpose of conducting this test program was to characterize the coal and measure the carbonization and resultant coke quality generated with this coal at carbonization conditions closely assimilating typical coke plant practice.

Based on the coal and pilot-oven test results generated in this program, the following can be concluded:

- Coal Chemical Properties - The 50/50 No.1 & No.4 seam coal combination is a relatively low ash, low sulfur, low alkali, medium-volatile coal.
- Coal Rheological Properties - The 50/50 No.1 & No.4 seam coal combination exhibits very low fluidity, moderate free swelling, and favorable sole-heated oven contraction properties typical of many Western Canadian bituminous coals. Some of the lower than expected rheological properties may have been impacted by the age of the sample.
- Coal Petrographic Properties - The 50/50 No.1 & No.4 seam coal combination indicates intermediate reflectance for medium-volatile coal and moderate levels of "true" inertinite content with relatively high concentrations of low reflecting reactive semifusinite.

- Carbonization & Coke Properties - Pilot oven carbonization at typical coke plant conditions (coking rate = 0.95 inches per hour, pulverization level = ~86% minus 1/8 inch, and oven dry bulk density = ~ 45 lbs./ft^3) indicates the following: no peak wall or gas pressure, moderate coke stability, high total coke yield, moderately low coke reactivity and moderately high coke strength after reaction.

The remainder of this report discusses the coal test, carbonization, and resultant coke quality data in detail for documentation purposes.

INTRODUCTION

A coal testing and carbonization program was conducted primarily to establish the metallurgical coal properties of the 50/50 No.1 & No. 4 seam coal combination and the respective coking potential for Globaltex. These seams, located in British Columbia, Canada, are Lower Cretaceous in geological age and represent the first time coals from this formation have been tested in this detail. The coal was collected in mid 1994 and shipped to Gallagher Coal Research Center Inc. on request from CoalTech USA, Inc. The sample arrived in early January 1995 and was held pending Globaltex securing funding for the project.

The bulk sample received weighed 570- lbs. and was roughly 1¼" by 0 in size and very dry. After assigning a sample number (CT No. 950503), the sample was stage crushed to minimize fines generation and achieve a target pulverization of 86% minus 1/8". As instructed, the sample was checked for FSI to make sure the coal had not deteriorated significantly, mixed thoroughly, and tested for proximate analysis, sulfur, oxidation test, Gieseler plasticity, sole-heated oven, ash composition, petrographic analysis and 30 pound oven coking pressure. Water was added to the coal, mixed, and adjusted for the target bulk density and carbonized in the UEC Coal & Coke Laboratory 500 pound pilot-scale coke oven. Following the carbonization cycle, the coke was tested for size consist, coke stability, and Japanese coke reactivity (CRI/CSR).

Comprehensive instructions were given to the carbonization laboratory personnel on coal preparation, blend proportioning, and carbonization conditions subsequent to conducting this test program. As agreed, it was decided to assimilate typical pulverization level targets (~86%). Typically used coking times and coking rates of ~19 hours and 0.95 coking rate (inches/hour) were simulated. Down scaling to the pilot oven scale, a 0.95 coking rate equates to a 14 hour coking cycle. The blend target bulk density was ~45 lbs./ft.^{3} calculated oven bulk density (dry). A 44.7 lbs./ft.^{3} actual bulk density (dry) was achieved. Based on our best estimate, the 45 (dry) pilot-oven bulk density most closely approaches a plant oven bulk density (wet) about 49 which is typical for many coke plants.

The coal was charged on 5/16/95 at 7:42 a.m. and pushed on 5/16/95 at 9:42 p.m. CoalTech was on-site at UEC for these activities and the peak pressure period on behalf of Globaltex.

DISCUSSION OF TEST RESULTS

Coal Test Results

The chemical, rheological, and petrographic test results conducted on the 50/50 No.1 & No.4 seam coal are shown in Table I.

Chemical & Misc. Properties

Proximate analysis (volatile matter, ash, fixed carbon) indicates that this coal is a moderately low ash (~5% dry), medium-volatile (~22.9% VM dry) bituminous rank coal by ASTM ranking. The sulfur content (0.62%) is considered low for a metallurgical coal. Usually coals considered very good to excellent for coke making have ash contents of less than 5.5% and sulfur contents of less than about 0.75%. The oxidation test results exhibited high transmittance (99+%) which indicates that this sample has not undergone significant natural weathering. Oxidized coal lowers coke strength and causes bulk density and coal handling problems at the coke plant. Values less than 90% are considered suspect and coals with values less than 80% are not ordinarily considered for coke making by most plants.

Ash composition values indicate a moderately high combined silica and alumina oxide content (~76%), moderate alkali content (~2.8%), moderate iron oxide (~10%), and low calcium oxide (~2.7%) content in ash. Usually for coking, it is desirable to have high silica & alumina oxides, low calcium oxide, low iron oxide, and less than 3% alkali (Na_2O & K_2O) in ash. Particularly favorable is the low sulfur trioxide values. The phosphorous is relatively high on a percent ash basis. However, due to the low ash content of this coal, the phosphorous content on a percent coal basis is considerably lower. Many of these ash properties impact coke reactivity (CRI & CSR) and hence, blast furnace performance. Ash fusion temperatures (reducing atmosphere) were not conducted, however, based on the ash chemistry a softening temperature of at least 2600°F would be expected. Softening temperatures (reducing atmosphere) less than 2300°F are considered marginal for coke making.

The Hardgrove grindability index was not conducted on this sample. This property is controlled by vitrinite reflectance, maceral composition, and mineral matter content. Usually grindability values lower than ~42 can cause pulverization and segregation problems, and above 100 can create coal dust-related and other operational problems for most coke makers.

Rheological Properties

The rheological properties for this sample are marginal to excellent for a medium-volatile coking coal. The free swelling value (6 ½) is considered fair to good. Coals with values less than 4 are considered marginal and are not commonly used high percentages of a blend for cokemaking. The Gieseler plasticity testing indicates that the No.1/No.4 seam sample exhibits low fluidity (2 ddpm) and a short plastic temperature range (32) for its rank. Fluidity studies conducted of several Western Canadian coals in the past indicated that the reduced fluidity does not impact resultant coke strength. Both the fluidity and the plastic ranges are typical for many Western Canadian medium- and low-volatile coking coals. The Arnu maximum dilatation was not determined. The sole-heated oven value generated (@ *52 BD & H_2O*) indicates excellent volume change characteristics for its rank resulting in contraction of 7%. Medium-volatile coals that expand are usually limited in blends to a minor percentage to prevent stickers and hard-pushes at a coke plant. The coking pressure from the 30-pound pilot test (5 psi) is considered moderate. Medium-volatile coal coking pressure values >10 psi limit its participation in blends. Based on this value, this coal can be used in moderately high percentages (~25-35%) in coking blends. The maximum will depend on the properties of the other (high & low- vol.) blending coals used and particular operating conditions at a given coke plant.

Petrographic Properties

Petrographic analysis consists of vitrinite reflectance analysis, maceral composition determination, and the calculation of important petrographic indices. Vitrinite reflectance defines the apparent coal rank. The maceral composition defines the coal type. Using this data, petrographic indices are computed to predict the coke stability or strength expected.

The reflectance results indicate a V-type distribution ranging from V-type 11 to 15, (skewed distribution), with a mean maximum vitrinite reflectance of 1.30% and standard deviation of 0.093. This confirms that the coal is a medium-volatile coal by reflectance and is composed of multiple seams. For Appalachian-type coals, these particular V-types typically contribute as strength enhancing ingredients during coking.

The maceral composition exhibits a moderately low vitrinite content (~64%) for a medium-volatile coal and combined with other reactive maceral components (exinite, resinite, 1/4 semifusinite) has 69.5% reactive components. A very low exinite/resinite maceral concentration is present which is typical for the coal rank. High levels of exinite/resinite macerals in any rank coal usually contribute to increased fluidity but not necessarily to higher dilatation. The total inert content (USS Method) is moderately high (30.5%) for a medium-volatile coal. Micrinite content is relatively low and is typically very small (<5μ) in size and usually contributes to increased coke strength depending on the amount present. The coarser inerts (3/4 semifusinite, fusinite) are relatively abundant

(~19%) are present. The most predominant organic inert maceral is inert semifusinite (~15%). An excessive amount of these coarser inerts can decrease coke strength, but they also tend to neutralize coke-mass contraction and/or expansion properties. Inorganic inert material (~2.9% mineral matter) is also present in relatively small amounts. This is a function of the coal ash & sulfur content.

The composition balance index (CBI) calculated for this coal indicates a moderate inert-richness (CBI = 1.83). An optimum or "in balance" CBI for a coal blend is near 1.0. Therefore, the inert-deficient or inert-rich character of any coking coal can be a desirable attribute for coke making. This ultimately depends on what type of other high-, medium- or low-volatile coals will eventually be blended with the No.1/No.4 seam coal. Typically, most high-volatile coals are inert deficient or near balance; many medium-volatile coals and all low-volatile coals exhibit inert-rich (>1.0) balance indices. Therefore, blending this Globaltex coal in with many other varieties of lower and higher rank coals in the right proportion can approach the optimum to produce high strength coke. The rank index (RI) is moderate high (5.46) and typical for its rank and type. The resultant coke stability factor is calculated to be about 58 which is good for an individual medium-volatile coal. However, calculated coke stability values for individual coals are not as important as their contribution as a blending component in a coal blend (e.g. blend CBI and blend RI values). The iso-stability graph with the combined No.1 & No.4 seams position plotted is attached.

Also included in Table I and on the iso-stability graph is the petrographic data presented in a modified (Canadian) manner for comparison to the USS Method. This basically reflects the fact that most Western Canadian coal semifusinite is more reactive (lower reflectance) than equivalent ranked Appalachian coals. Also, the modified values allocate lower reflecting micrinite-category macerals into the semi-inerts instead of the common practice of grouping them in a totally inert category (e.g. USS Method). Therefore, the semi-macrinite, semi-inertodetrinite was grouped with the semifusinite and considered 1/2 reactive and 1/2 inert instead of this rank being considered 1/4 reactive and 3/4 inert. The resultant difference in CBI, RI, and calculated stability can be compared in Table I.

In addition to the reflectance and maceral composition determinations, other microscopic observations were made. Coarsely brecciated coal was present but not abundant. Oxidized coal with characteristic stained appearance, cracks, and particle relief was present in trace, but not significant, amounts. This may be due to the sample being taken from an area with only about ten meters of cover. Pseudovitrinite exhibiting higher reflectance than normal tellenitic vitrinite was abundant and exhibited characteristic micro-slits. Some of the homogeneous vitrinite exhibited strange micro-pores (1 to 2 microns in diameter). The origin of this feature is not known. Carbonates, most likely siderite, pyrite filling in cracks or cleats, and traces of coarse mineral matter and bone were present in small or trace amounts.

Pilot Oven Test Results

The pilot oven used for this project was a nominal 500-lbs. capacity adjustable width, movable-wall test oven. The oven chamber dimensions at the time of testing were as follows: Height = 36.13 inches, Width = 13.13 inches, Length = 36.44 inches. The oven has one charging hole on the top and is equipped with two fully removable doors. The pusher side has a port in the center for the center coke mass temperature thermocouple. The pusher side also has a chuck door above the pusher side door to enable charge leveling operations. The coke side door has three holes (top, middle, and bottom) for inserting gas pressure probes through the door into the center of the coking chamber. One of the oven walls is permanently in a fixed position while the other is a movable wall. The movable wall rides on a trolley track system from the top of the oven so it is basically suspended to avoid restriction of wall movement for accurate wall pressure measurement. A single load cell is attached to the movable wall to measure wall pressure being exerted from the coal blend during coking. Oven heating control is electric via glo-bars. In each of the two walls there are three heating zones with paired sets of glo-bars for a total of six heating zones for the entire oven. The temperatures are accurately controlled in each zone individually with programmable Athena controllers. The coke oven chamber walls are constructed of casted silica-carbide tiles. A slightly positive back pressure is maintained throughout the coking cycle to avoid air infiltration to the oven chamber. This is measure through the chuck door on the pusher side and is monitored via magnehelic gauge (~0.5 mm of water).

The condition of the pilot oven (AW-2) was determined to be in excellent shape. In addition, the equipment calibration records were inspected. The following calibration dates were verified and found to be adequate: load cell - 8/11/94, controllers - 2/27/95, gas probe recorders - 3/7/95, oven wall dimensions - 2/22/95, and oven temperature recorder - 2/29/95.

Carbonization & Coke Quality Data

Table II shows the coal identification, pilot oven operating conditions, coking pressures, and coke physical test results (Oven Test No. 6110-A2, CT No. 950503).

Attachment 1 includes a graph of the coking time/center coke temperatures and copies of the various wall and gas pressure charts for this oven test.

As can be seen, the preparational and carbonization test conditions were closely met. At these planned and typical carbonization conditions, a true peak wall pressure was not measured. The 1.03 psi is not a true peak wall pressure attributable to blend coking pressure. This value is almost meaningless and is due to refractory and brickwork

expansion. This usually only occurs with this type of oven design when slow, extended coking times are used. As can be seen from Table II and the pressure charts, no gas pressure was detected. This is extremely unusual. Obviously, these are safe pressures for any commercial battery.

Subsequent to the oven push, observations were made on the coke mass. In the coke mass, very few lateral fissures were present. The vertical shrinkage was about 3-4 inches or ~8 %. The lateral shrinkage away from the oven wall was irregular but ranged from ½ to 1½ inch (4 to 8 %) which is good and confirms the sole oven data generated. The vertical seam was present in the coke mass. Upon door removal, some slumping and fines were evident near the floor of the oven.

Following coke removal from the oven and water quenching, the coke was observed. The coke looked fully carbonized, but appeared unusual. It exhibited a rough, pebble-like texture on the coke surfaces which resembled particles that basically retained their original shape. This is probably caused by the low fluidity whereby the coal is not softening appreciably but gets sticky and bonds. This creates a surface sinter bond or weld instead of a homogenized chemical or fluid bond. Generally, this type of bonding is not as strong. The cauliflower crenulations were very large and few per lump. This is typical of high rank blends with antifissurants, coals carbonized for extended coking times, or in this case low fluidity coal. It should be noted that the appearance of the coke generated in the 30-lbs test oven (PTO) visually looked normal with no unusual structure or texture. This test is always conducted at rapid coking rates. This may indicate that the Globaltex coal can be favorably coked at faster rates with resultant improvement in coke properties beyond what was observed in the larger 500 pound pilot oven test.

After quenching the coke was air-dried, dropped 4 times from a 6 foot drop shatter machine for stabilization, and screened. The coke size analysis generally indicates a normal size distribution except for a somewhat large proportion of minus 1/2 inch coke (breeze). The 3 by 2 coke is then removed, oven dried and tested for ASTM Tumbler Stability and Hardness properties in duplicate. The stability factor resulting was 50. This value is fairly good for a single coal carbonized in a pilot oven. The high total coke yield (76.7) is expected due to the volatility of the coal.

The Japanese coke reactivity test was also conducted on the resultant pilot-oven coke. Relatively low CRI (26.9) and moderately high CSR (54.6) resulted. In a commercial environment, a slightly lower CRI and higher CSR would be expected. Low CRI and high CSR properties are very desirable properties for blast furnace use. The Globaltex coals would make a very favorable contribution to increasing the CSR properties of when used in most coal blends. This is particularly important because coke has to be higher quality with the trend toward increased coal injection to blast furnaces.

CONCLUSIONS

- Coal Chemical Properties - The 50/50 No.1 & No.4 seam coal combination is a relatively low ash, low sulfur, low alkali, medium-volatile coal.

- Coal Rheological Properties - The 50/50 No.1 & No.4 seam coal combination exhibits very low fluidity, moderate free swelling, and favorable sole-heated oven contraction properties typical of many Western Canadian bituminous coals. Some of the reduced rheological properties may have been impacted by the age of the sample.

- Coal Petrographic Properties - The 50/50 No.1 & No.4 seam coal combination indicates intermediate reflectance for medium-volatile coal and moderate levels of "true" inert content with relatively high concentrations of low reflecting reactive semifusinite.

- Carbonization & Coke Properties - Pilot oven carbonization at typical coke plant conditions (coking rate = 0.95 inches per hour, pulverization level = ~86% minus 1/8 inch, and oven dry bulk density = ~ 45 lbs./ft^3) indicates the following: no pressure wall or gas pressure, moderate coke stability, high total coke yield, moderately low coke reactivity and moderately high coke strength after reaction.

Considerations for the future should include conducting carbonization tests at shorter coking times (faster coking rates) and possible higher bulk density to enable a peak wall pressure and gas pressures to be detected. Since coking pressure generally increases with faster coking times, and increased bulk density, testing at faster conditions could be considered a "worst case" scenario. The lack of pressures, appearance of the coke, and reduced stability resulting from this test may be due partly to the age of the sample (shelf-life). Based on the appearance of the smaller pilot scale PTO coke, it is suspected that this coal may perform even better at faster coking rates (improve stability, increased produced, still maintain safe pressures).

kfd, 6/7/95

COALTECH USA, INC.

Table I

METALLURGICAL COAL INFORMATION

Coal Id.: Globaltex Coal - 50% No1 Seam, 50% No.4 Seam

Sample No.: 950503

PROXIMATE ANALYSIS, (% dry)	
Volatile Matter	22.85
Ash	5.03
Fixed Carbon	72.12
SULFUR CONTENT, (% dry)	0.62
OXIDATION TEST (% Trans.)	99.6
FREE SWELLING INDEX	6½
GIESELER PLASTICITY	
Max. Fluidity, ddpm	2
Max. Fluidity Temp., °C	457
Inital Softening Temp. °C	445
Solidification Temp. °C	477
Plastic Range	32
SOLE HEATED OVEN	
Volume Change, % (@ 52 BD, 2% H20)	-7.2
PRESSURE TEST	
Wall Pressure, psi	5.1
Bulk Density, lbs/ft.^{3}	48.5

ASH COMPOSITION, (% in ash)	
SiO_2	51.83
Al_2O_3	24.56
Fe_2O_3	10.02
TiO_2	1.11
CaO	2.67
MgO	0.99
Na_2O	1.54
K_2O	1.29
P_2O_5	2.79
SO_3	1.22
Undetermined	1.98

PETROGRAPHIC ANALYSIS		*USS*	*Canadian*
Maceral Composition, (*vol. %*)			
Reactives			
V-Types	11	10.2	10.2
	12	19.7	19.7
	13	26.1	26.1
	14	5.1	5.1
	15	2.5	2.5
Vitrinite		63.6	63.6
Exinite		0.5	0.5
Resinite		0.3	0.3
Semifusinite		5.1 *(1/4)*	12.3 *(1/2)*
Total Reactives		69.5	76.7
Inerts			
Semifusinite		15.2 *(3/4)*	12.3 *(1/2)*
Micrinite		8.8	4.5
Fusinite		3.6	3.6
Mineral Matter		2.9	2.9
Total Inerts		30.5	23.3
Petrographic Indices			
Vit. Reflectance (R_{max}), %		1.30	1.30
Comp. Balance Index		1.83	1.35
Rank/Strength Index		5.46	5.73
Calc. Stability Factor		58	64

MICROSCOPIC OBSERVATIONS	
V-Type Distribution:	Multi-Rank
Reflectance Std. Deviation:	0.093
Brecciated Coal (*coarse*):	Present
Oxidized Coal:	Trace
Pseudovitrinite:	Abundant
Micro-Pores in Vitrinite:	Present
Low Reflectance Semifusinite:	Abundant
Carbonates (*siderite?*):	Present
Coarse MM & Bone:	Trace
Pyrite (*filling in cracks*):	Trace

Table II

CARBONIZATION DATA FOR GLOBALTEX TEST PROGRAM

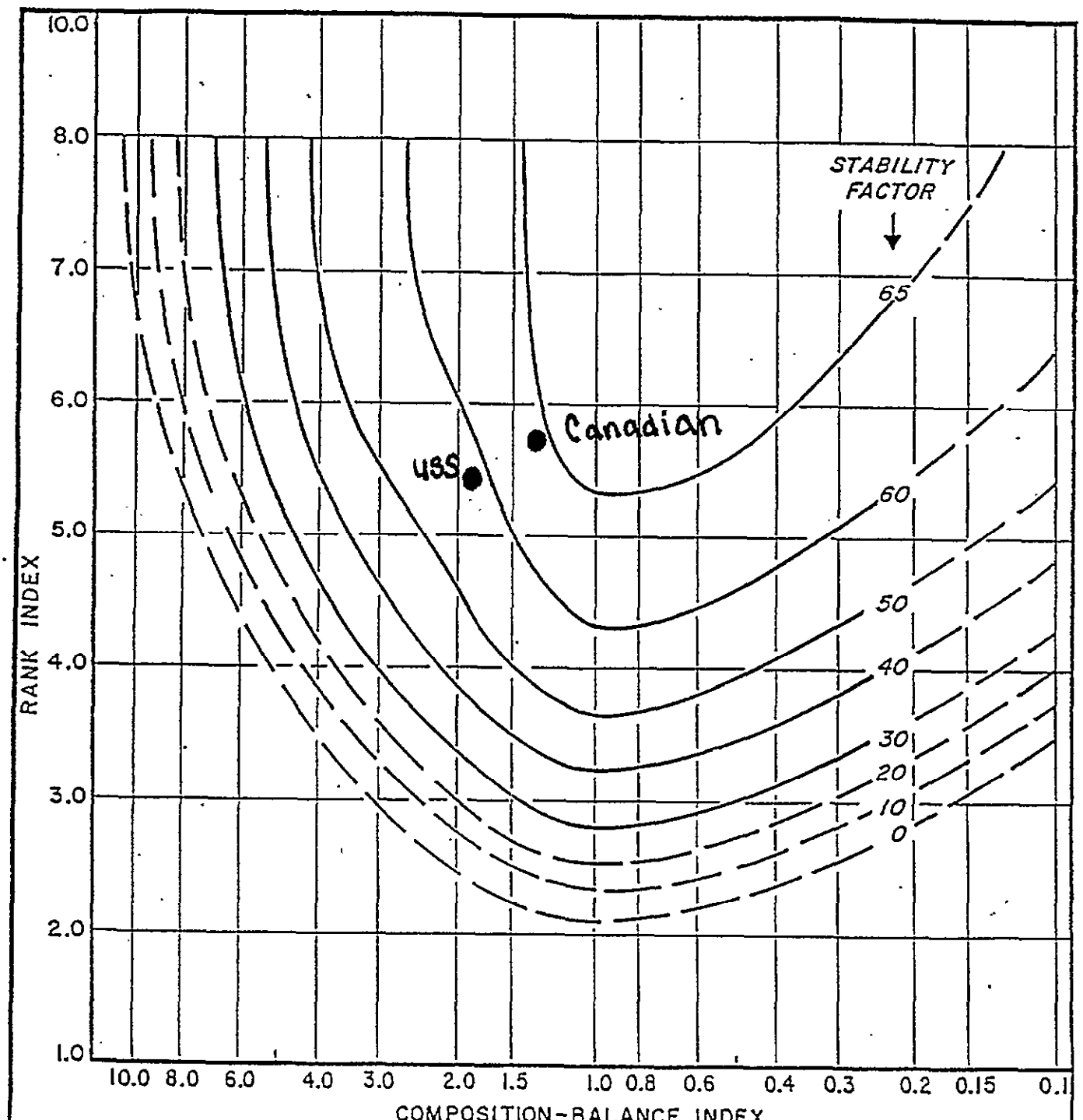
OVEN TEST NO.:			6110-A2
CT. No:			950503
Coal ID:			100 % Globaltex - (50/50 - No.1 & No.4 Seams)
TEST CONDITIONS			
Moisture, wt. %			4.0
Coal Size, wt. %			
minus 1/8 in			86.2
minus 100 mesh			5.5
Oven Bulk Density, lbs./ft^3 *(dry)*			44.7
ASTM Cone BD, lbs./ft^3 *(wet)*			43.5
Flue Temperature Program			
Init. Flue Temp., °F			1580
Final Flue Temp., °F			2000
Rate of Rise, °F/hr.			34
Coking Rate, in./hr.			0.95
Final Coke Temp., ° F			1944
Total Coking Time, hrs.			13.93
COKING PRESSURE			
Wall Pressure, psi *(max.)*		(None Detected)	<1.03 *
Time,		(Est @ 60% thru cycle)	8.40
Gas Pressure, psi *(max.)*	Top		0.0
	Bottom		0.0
	Middle		0.0
	Time, hrs.		-
	Average		0.0
COKE PHYSICAL PROPERTIES			
Size, cum. wt. %			
Plus 4 in.			6.2
Plus 3 in.			34.4
Plus 2 in.			73.4
Plus 1 in.			86.7
Plus 1/2 in.			87.6
ASTM Tumbler Test			
Stand. Procedure *(3 x 2")*			
Stability Factor			50.0
Hardness Factor			53.6
Total Coke Yield, %			76.7
JAPANESE COKE REACTIVITY			
Coke Reactivity Index (CRI)			26.9
Coke Strength After Reaction (CSR)			54.6

* Denotes no peak wall pressure detected. Most of wall movement & pressure to the load cell is due to refractory expansion. No gas pressures detected.

Globaltex 50/50 No. 1 Seam and No. 4 Seam
CT No. 950503

U.S.STEEL COKE STABILITY GRAPH

(after Schapiro & Gray, 1963)



COMPOSITION-BALANCE INDEX, RANK INDEX, AND EMPIRICALLY DETERMINED ISOSTABILITY LINES

Attachment 1

50/50 No. 1 Seam and No. 4 Seam

- Time/Center Coke Temp. Graph
- Wall Pressure Chart
- Gas Pressure Charts

Globaltex Carbonization Program

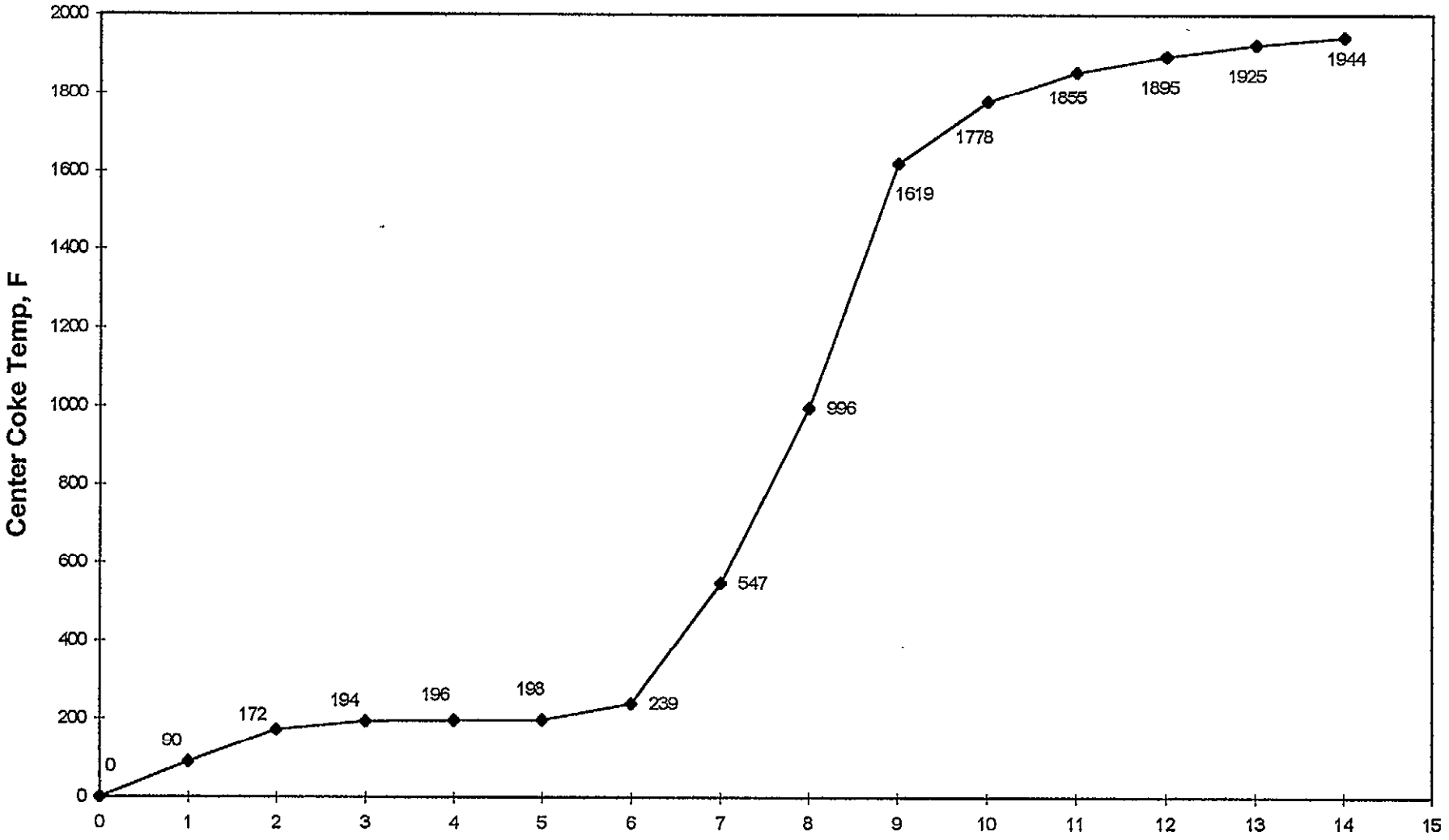
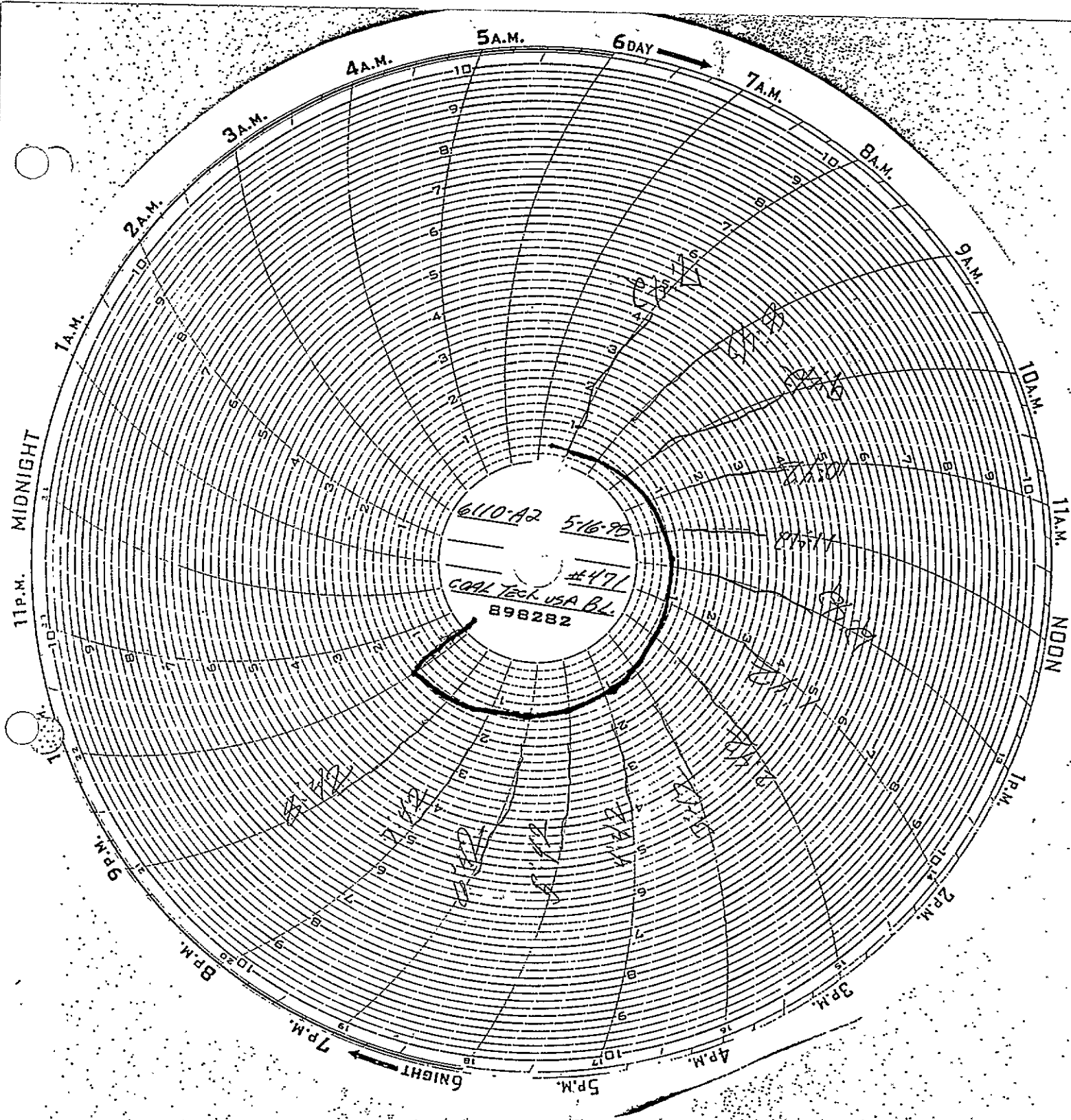
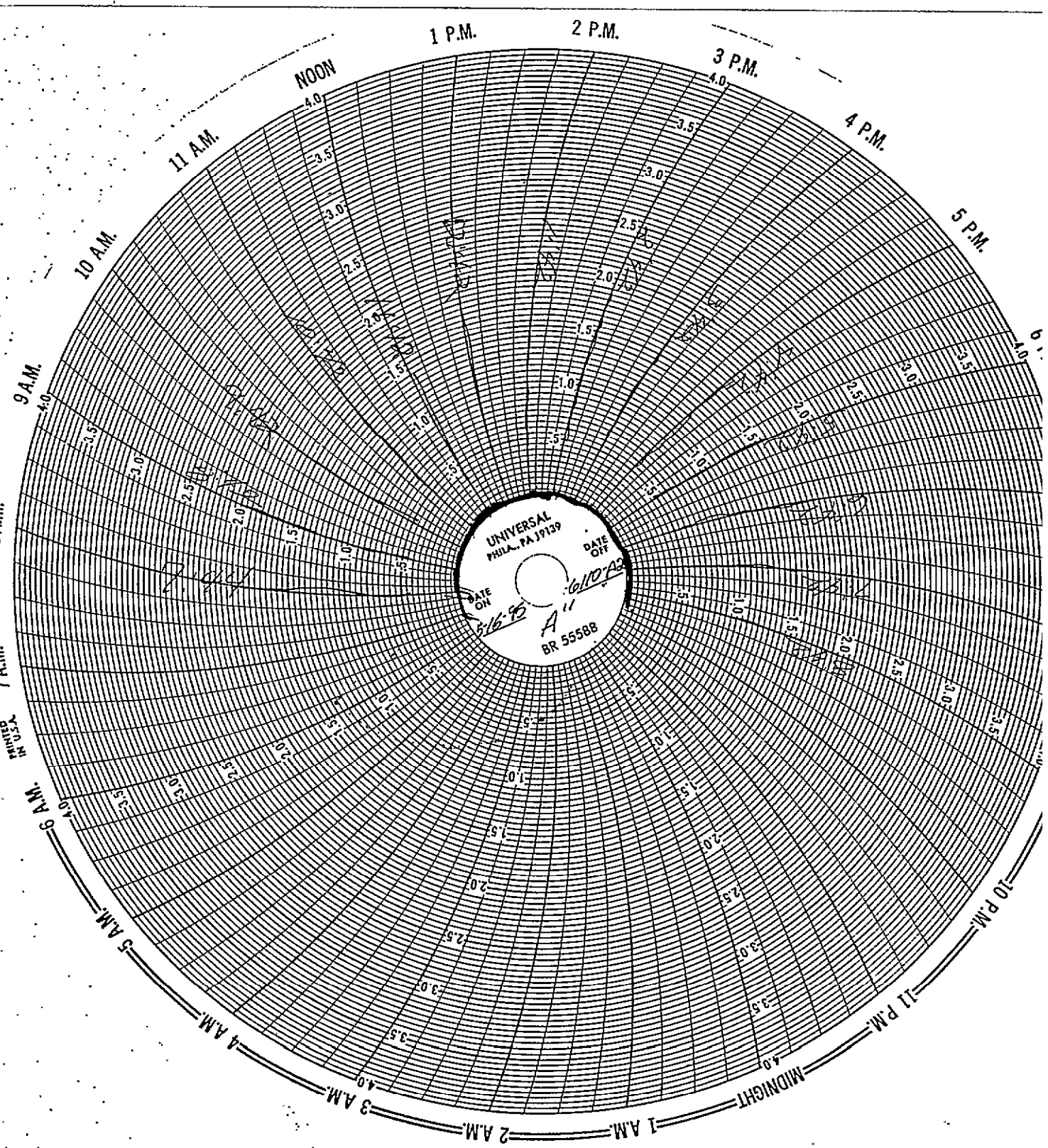


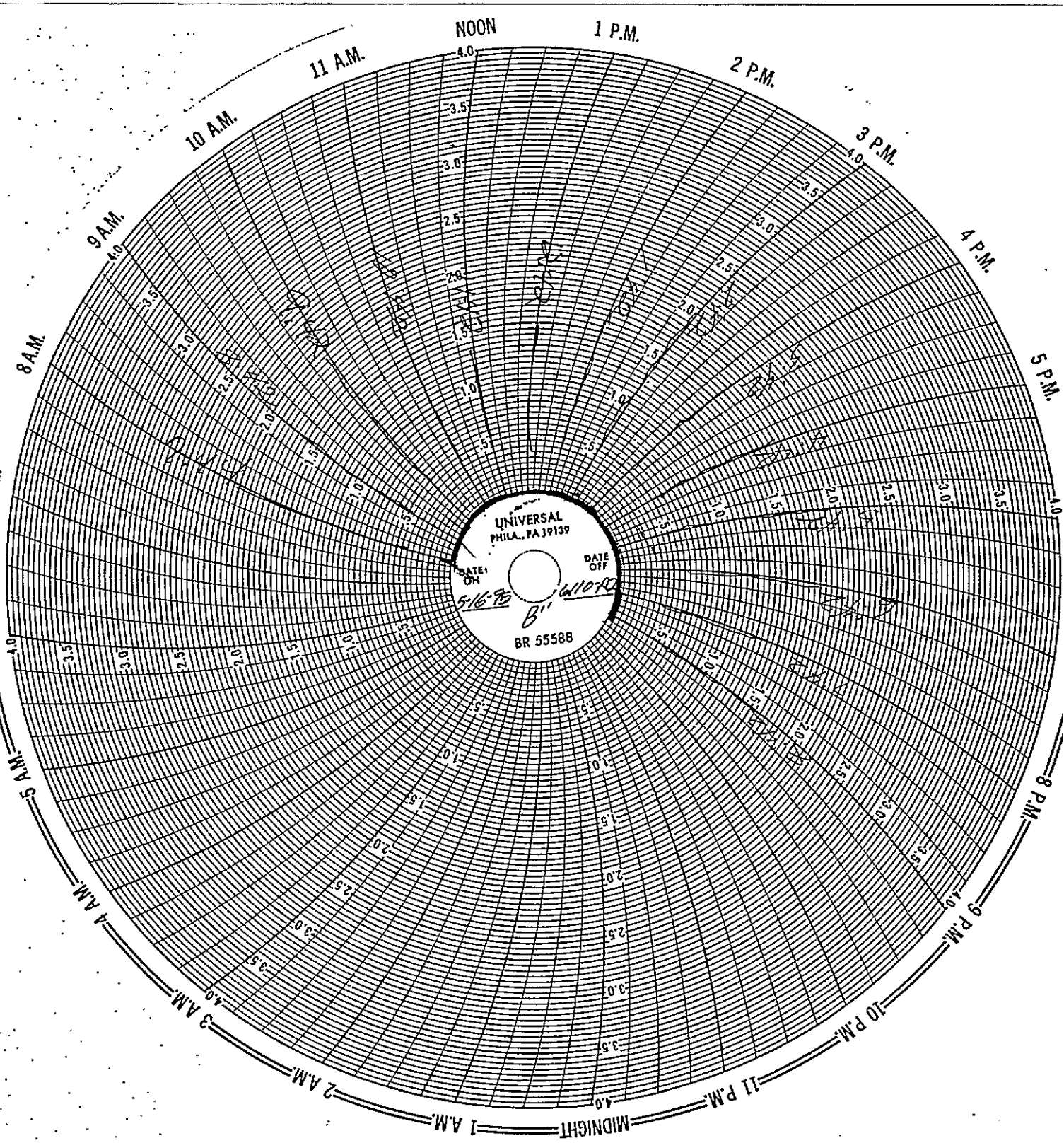
Figure 1. 50/50 No. 1 Seam and No. 4 Seam



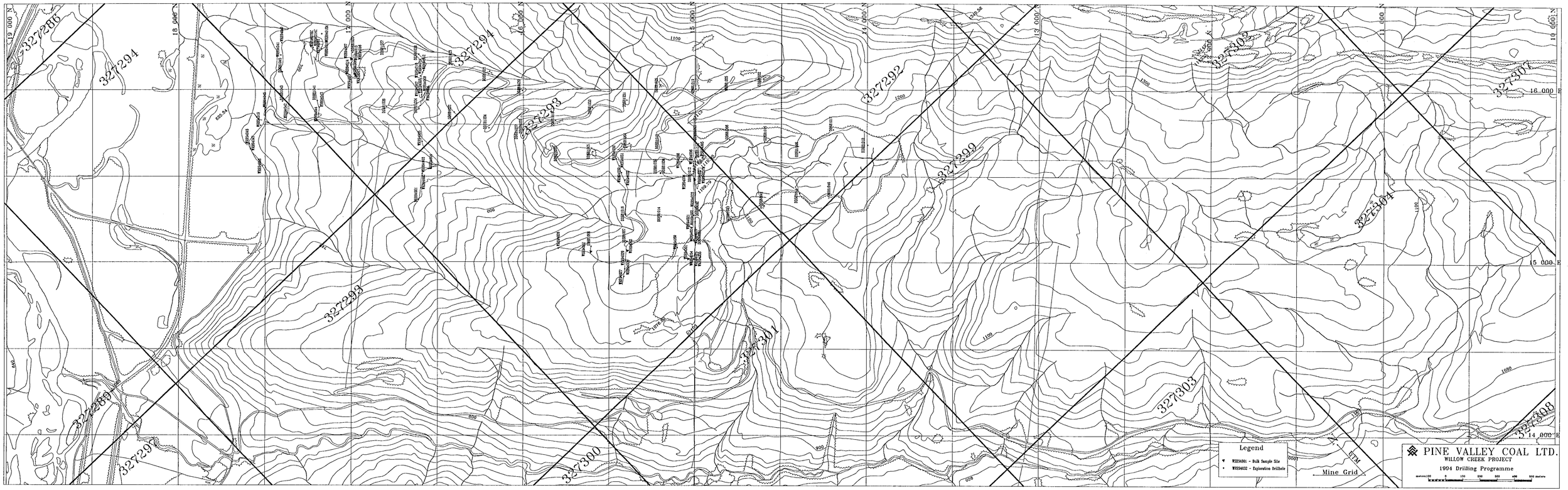
50/50 No. 1 Seam and No. 4 Seam
Wall Pressure Chart



50/50 No. 1 Seam and No. 4 Seam
Top and Middle Probes - Gas Pressure



50/50 No. 1 Seam and No. 4 Seam
Bottom Probe - Gas Pressure


Legend
WS1994001 - Bulk Sample Site
WH1994032 - Exploration Drillhole
Mine Grid
N
UTM
PINE VALLEY COAL LTD.
WILLOW CREEK PROJECT
1994 Drilling Programme
meters 100 0 100 200 300 400 500 meters
16 000 E
15 000 E
14 000 E
19 000 N
18 000 N
17 000 N
16 000 N
15 000 N
14 000 N
13 000 N
12 000 N
11 000 N
10 000 N
327289
327290
327291
327292
327293
327294
327299
327301
327303
327304
327305
327308

APPENDIX 3

GEOPHYSICAL LOGS

Appendix 3.1

WRH 94001

Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

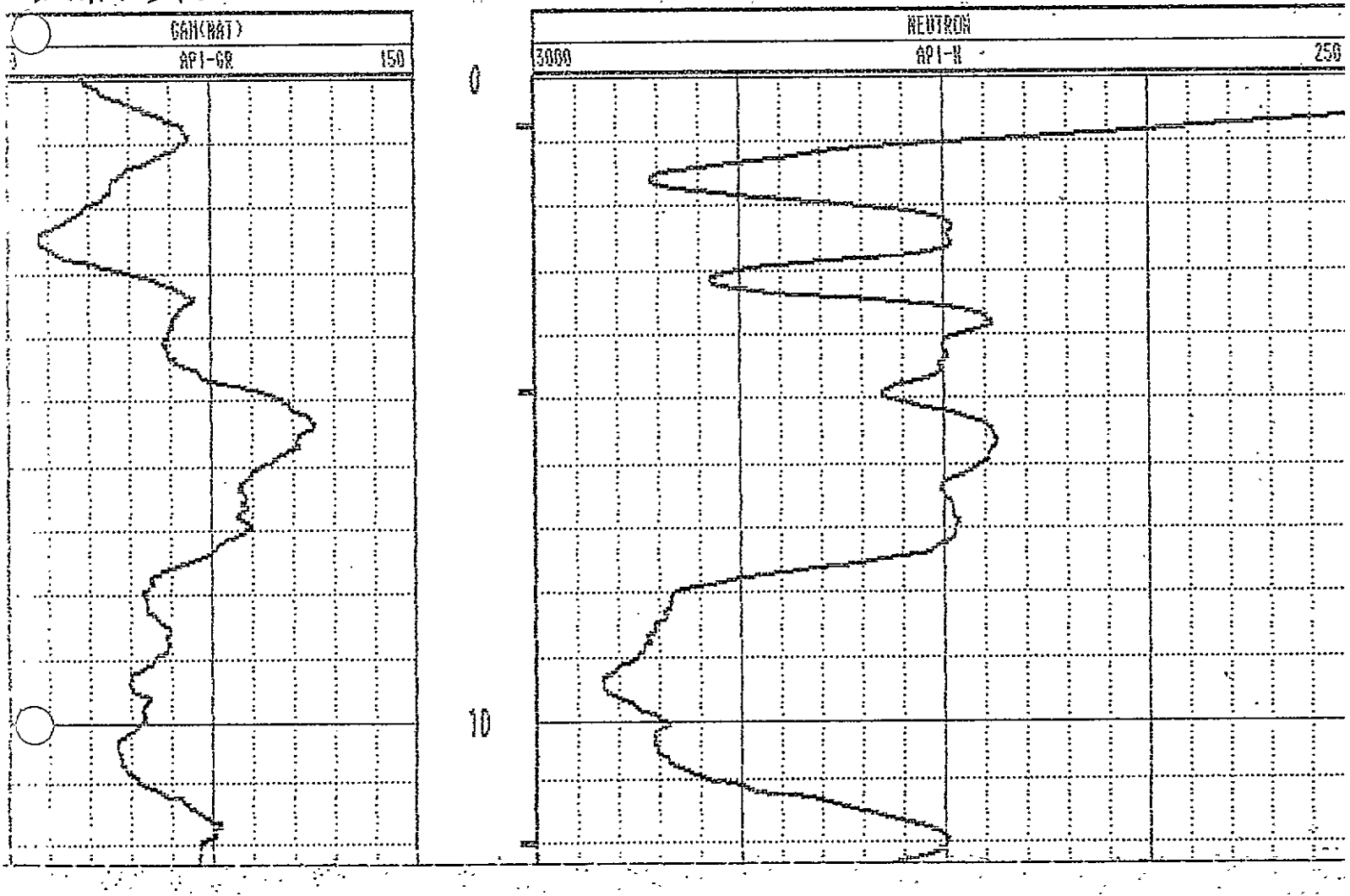
COMPANY	: GLOBALTEX			OTHER SERVICES:	
FILE	: WRH-94001			9030	
LOCATION/FIELD	: WILLOW CREEK			9300	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/09/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 73.2	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 35.08	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.42	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LENGKVJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

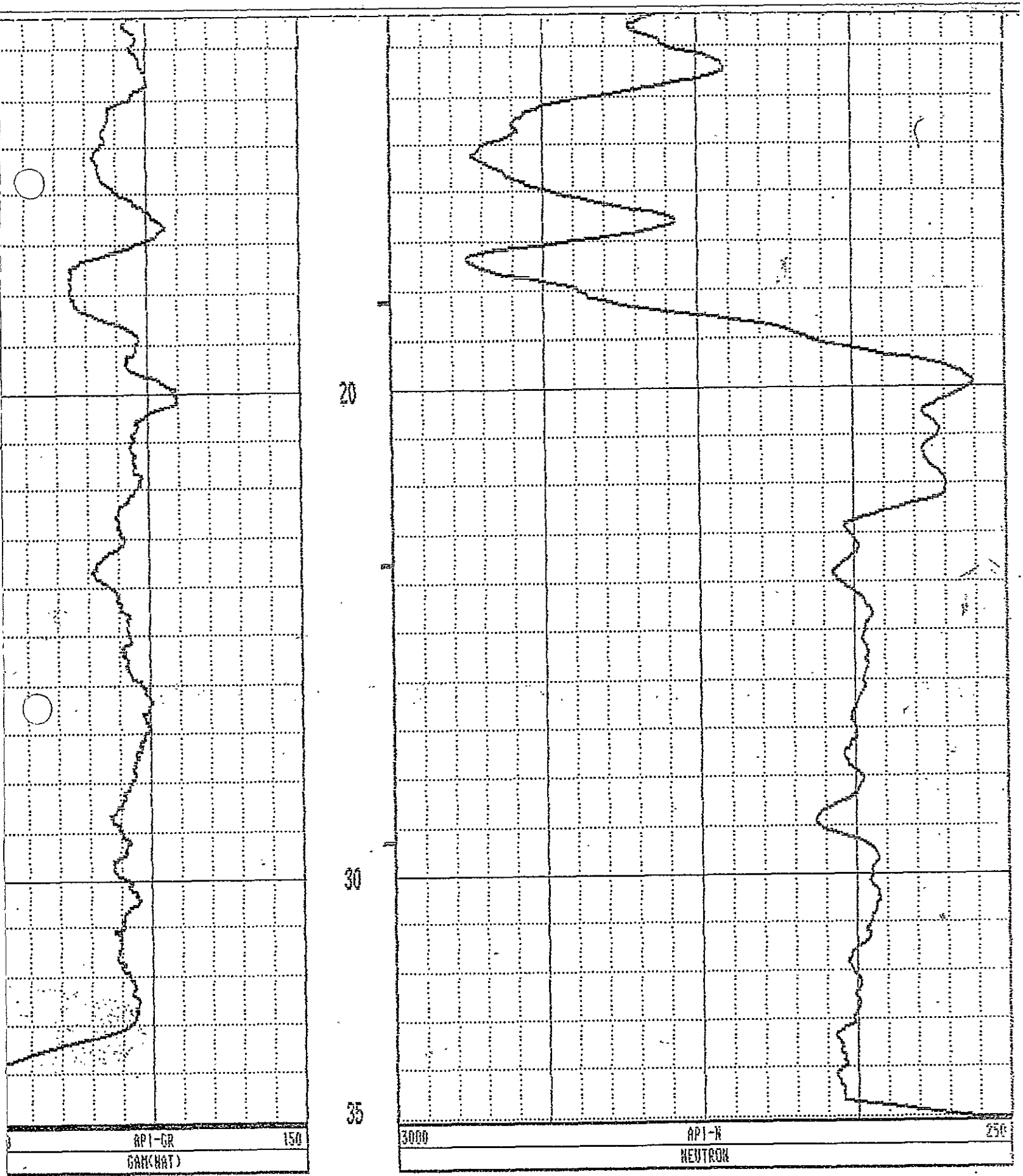
OPEN HOLE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1

WRH-94001





WRH-94001 03/09/94 255

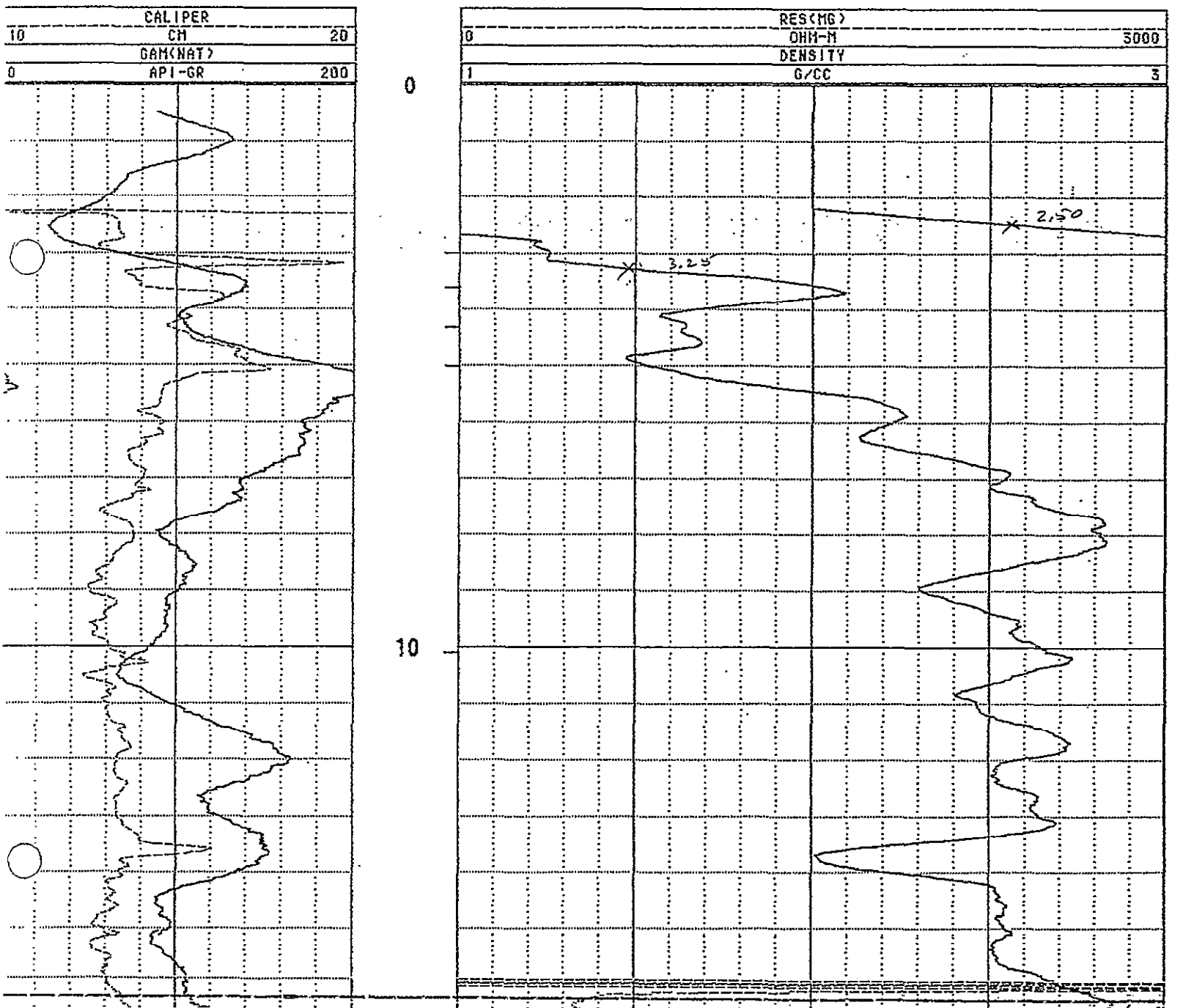
94-001

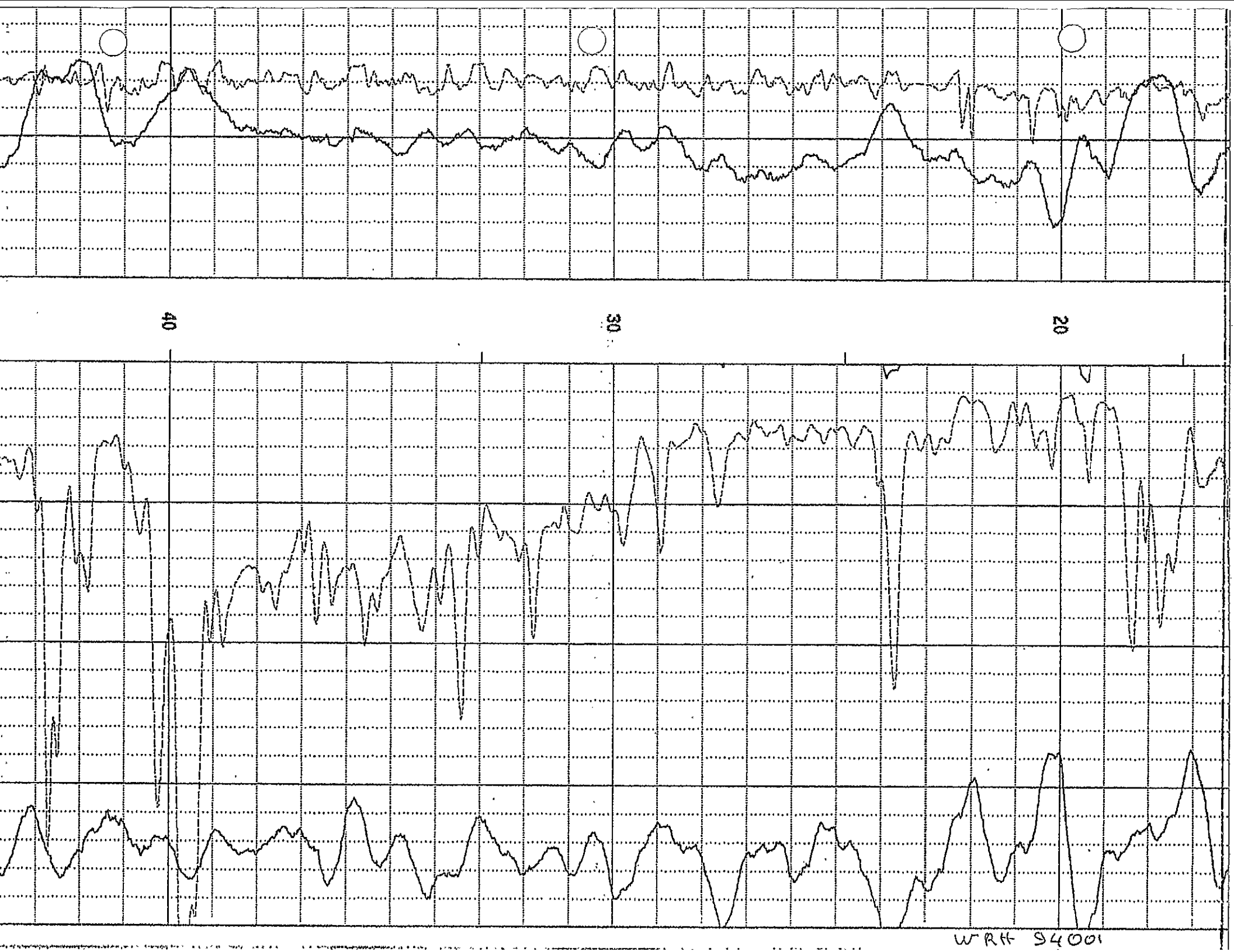
Century GEOPHYSICAL CORP.

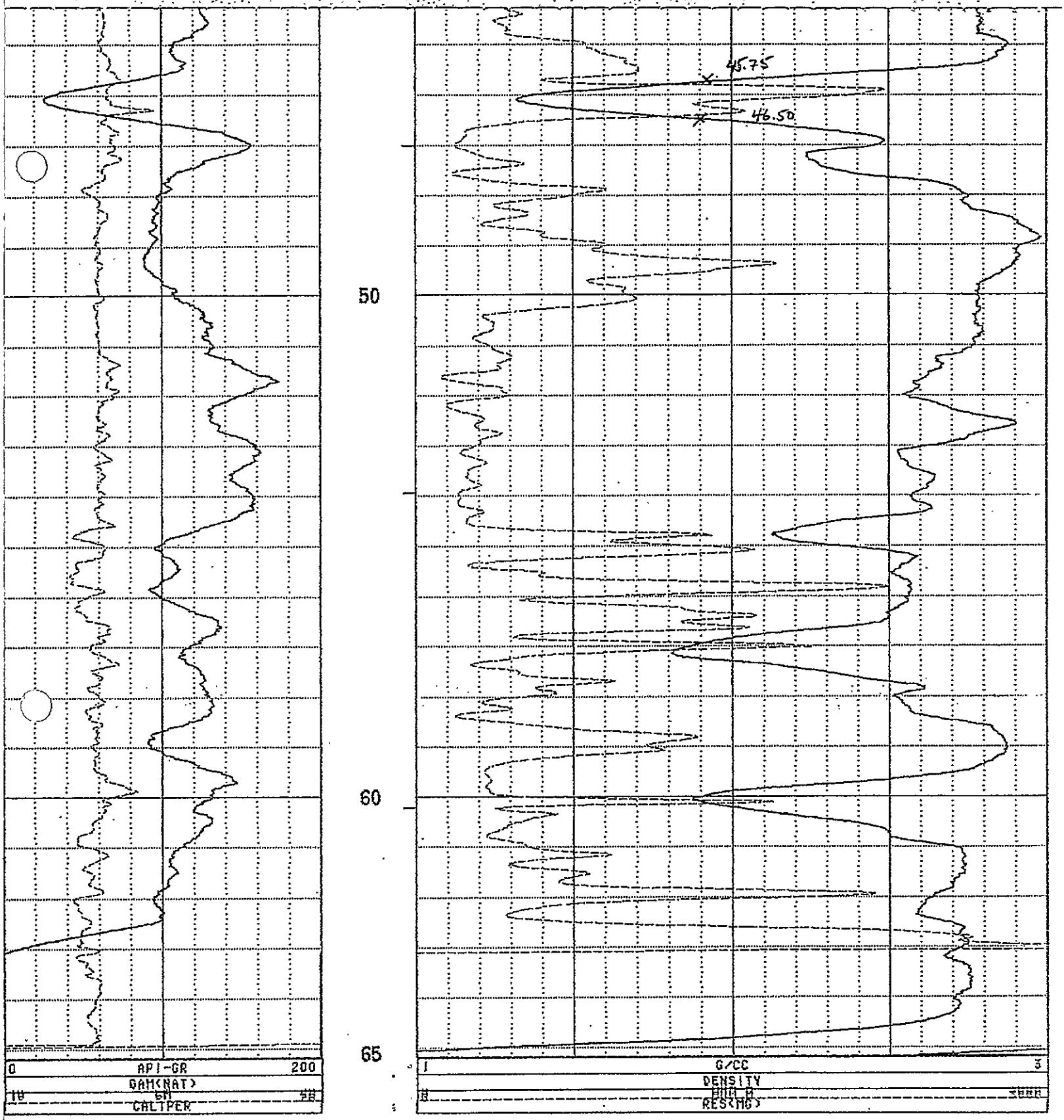
GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94001			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/09/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 73.2	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 65.20	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.50	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: PROCESSED
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 6
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
3
0
10
2.50
3.25


40
30
20
WRH 94001



WRH-94001 03/09/94 440

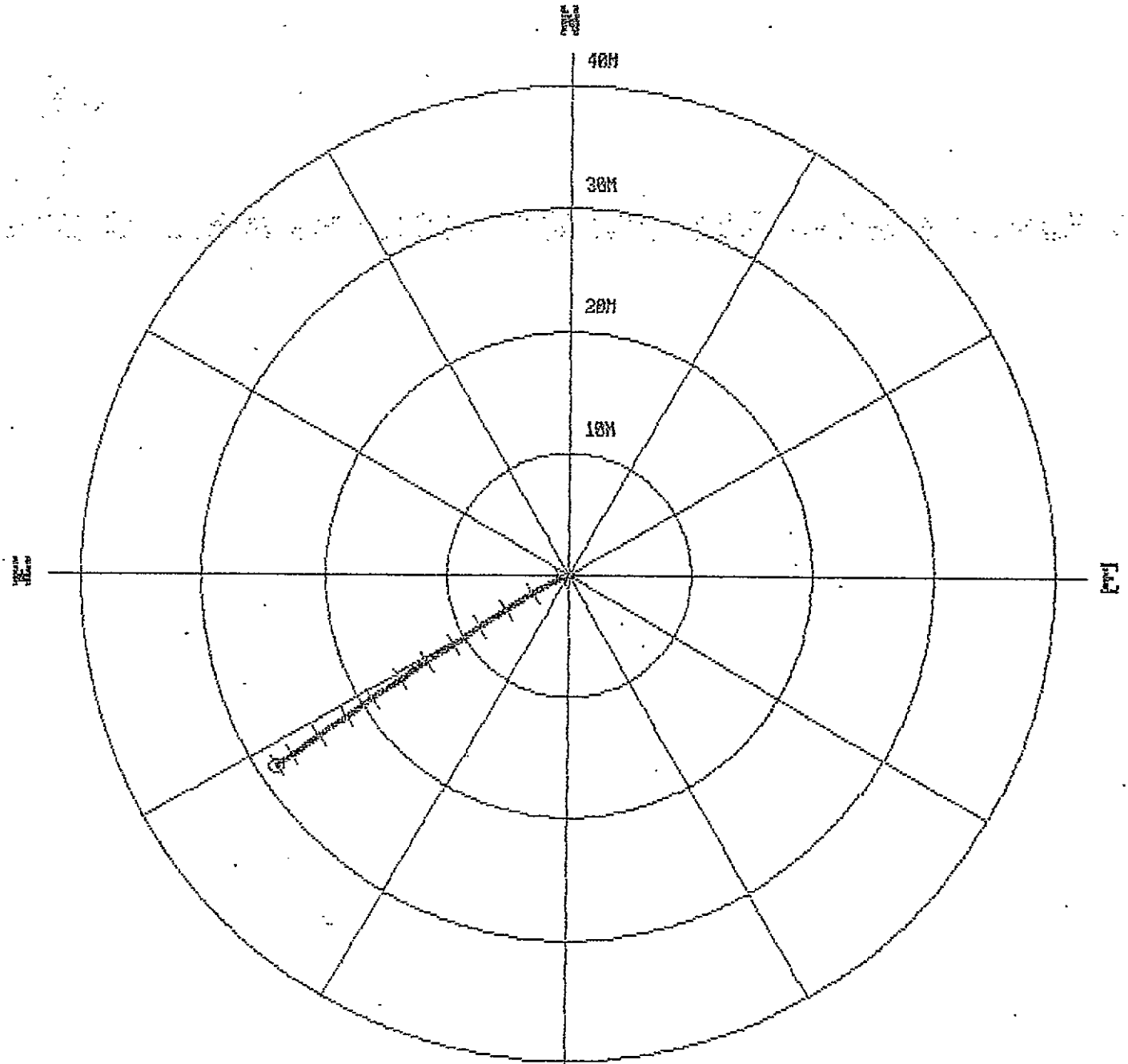
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94001
DATE OF LOG: 03/09/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 5 M/CM
TRUE DEPTH: 57.78 M
AZIMUTH: 236.6
DISTANCE: 28.5 M
+ = 5 M INCR
○ = BOTTOM OF HOLE



* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

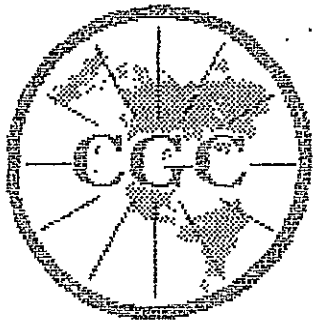
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94001
DATE OF LOG : 03/09/94
PROBE : 9055A . 255
DEPTH UNITS : METERS LOG 5

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
3.6	3.62	0.00	0.00	0.0	0.0	0.0	0.0
7.5	7.02	-0.72	-1.55	1.7	245.2	28.4	235.1
12.5	11.45	-1.88	-3.54	4.0	242.0	27.1	234.9
17.5	15.89	-3.09	-5.50	6.3	240.7	27.1	237.5
22.5	20.33	-4.33	-7.42	8.6	239.7	27.1	238.6
27.5	24.77	-5.63	-9.30	10.9	238.8	27.5	236.2
32.5	29.21	-6.88	-11.24	13.2	238.5	27.9	235.4
37.5	33.62	-8.20	-13.16	15.5	238.1	28.5	234.4
42.5	38.02	-9.52	-15.13	17.9	237.8	28.2	238.3
47.5	42.43	-10.86	-17.04	20.2	237.5	28.3	236.9
52.5	46.84	-12.17	-18.98	22.5	237.3	28.6	238.2
57.5	51.24	-13.55	-20.90	24.9	237.0	28.3	235.9
62.5	55.63	-15.00	-22.78	27.3	236.6	28.8	235.9
64.9	57.78	-15.68	-23.74	28.5	236.6	28.9	233.7
67.5	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.2

WRH 94002

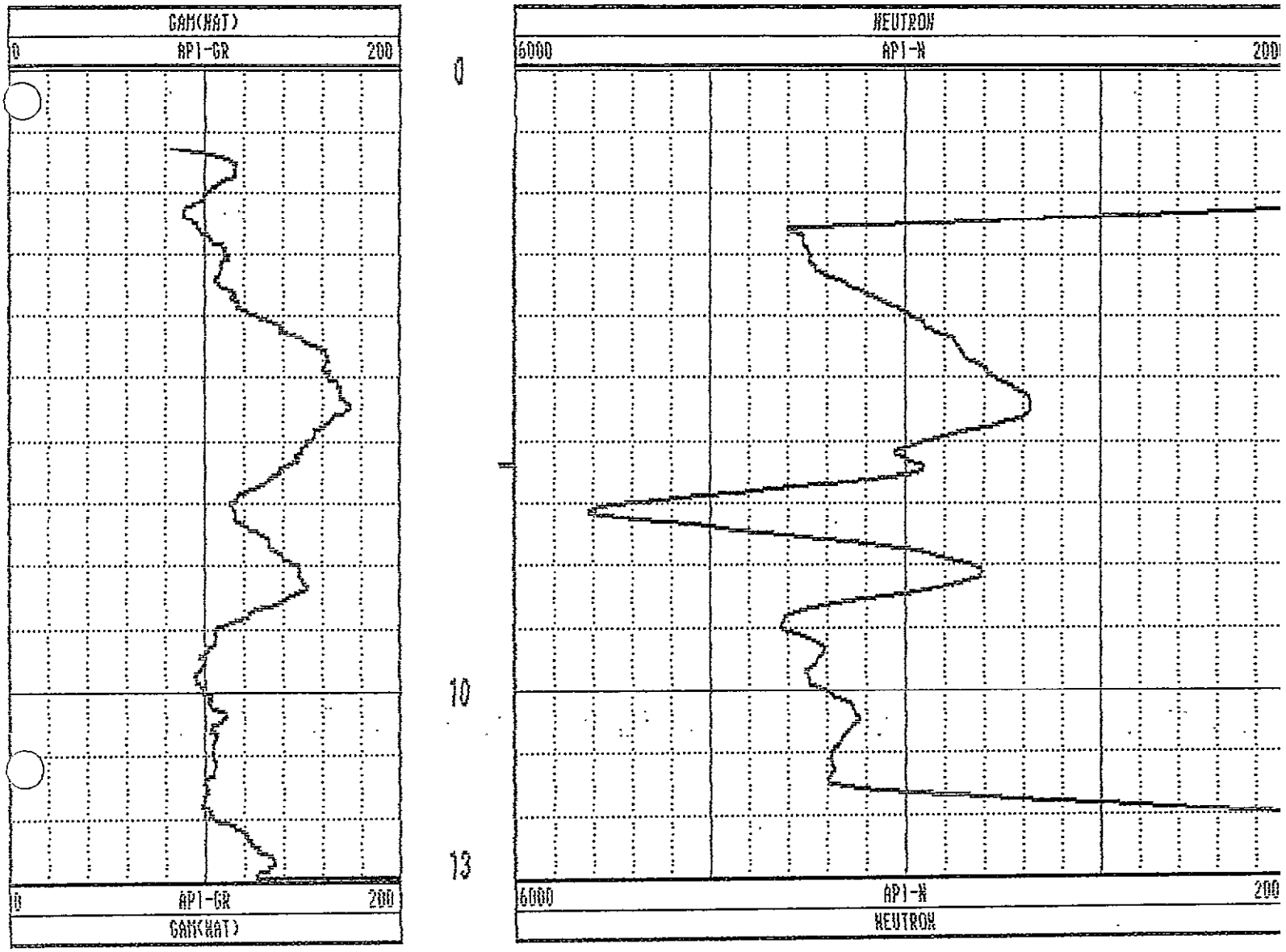


Century GEOPHYSICAL CORP.

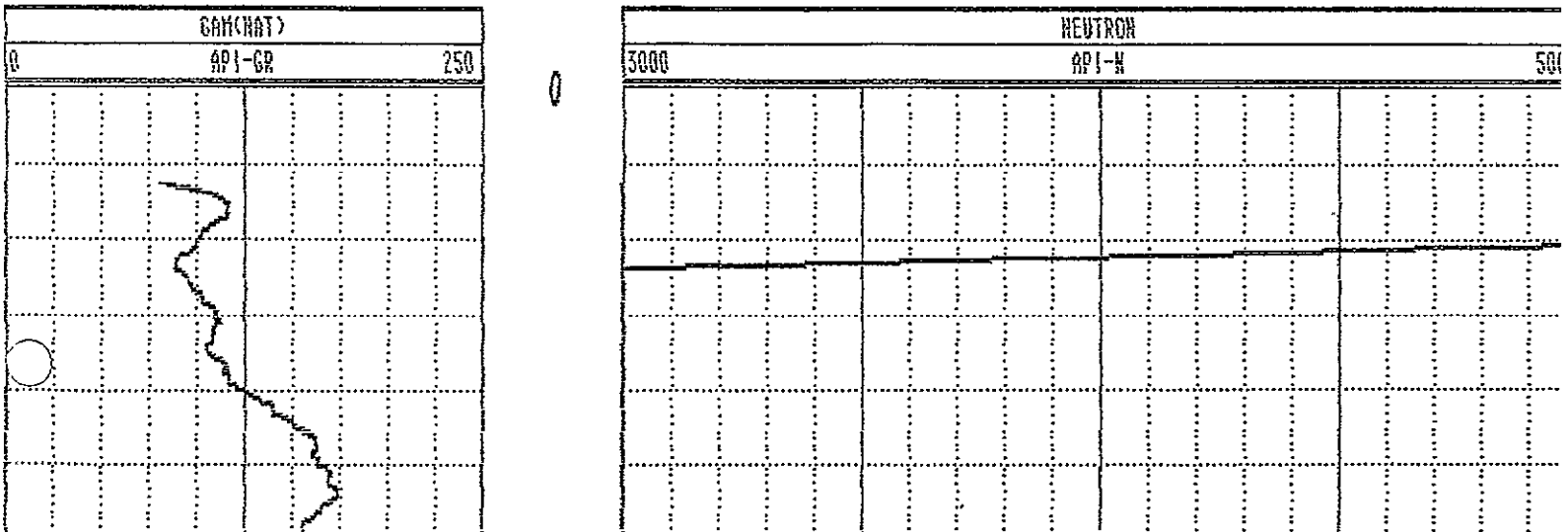
GAMMA-NEUTRON

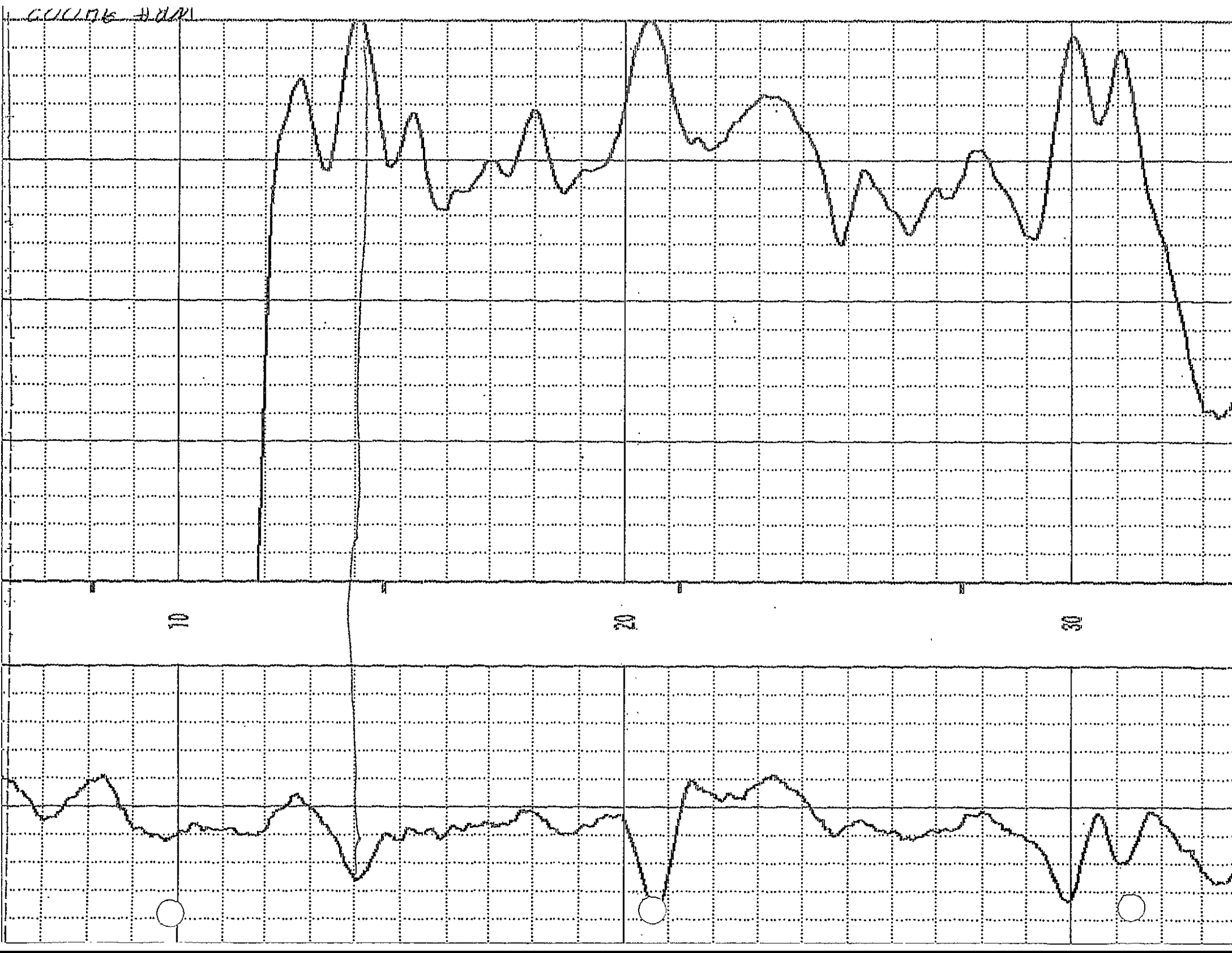
COMPANY	: GLOBALTEX				OTHER SERVICES:		
WELL	: WRH-94002				9030		
LOCATION/FIELD	: WILLOW CREEK				9055		
COUNTY	: CHETWYND						
STATE	: B.C.						
SECTION	:	TOWNSHIP	:		RANGE	:	
DATE	: 03/11/94	PERMANENT DATUM	:	GL	ELEVATIONS		
DEPTH DRILLER	: 100	ELEV. PERM. DATUM	:		KB	:	
LOG BOTTOM	: 83.08	LOG MEASURED FROM	:	GL	DF	:	
LOG TOP	: 1.29	DRL MEASURED FROM	:	GL	GL	:	
CASING DRILLER	: 22.55	LOGGING UNIT	:	8903			
CASING TYPE	: STEEL	FIELD OFFICE	:	CALGARY			
CASING THICKNESS	: 0.12	RECORDED BY	:	T. LEWYCKYJ			
BIT SIZE	: 13.5	BOREHOLE FLUID	:	WATER	FILE	:	ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:		TYPE	:	9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:		LOG	:	2
FLUID DENSITY	: 1.00	MATRIX DELTA T	:	173	PLOT	:	G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	:	690	THRESH	:	30000
REMARKS	:						

OPEN HOLE



WRH-94002 03/11/94 255

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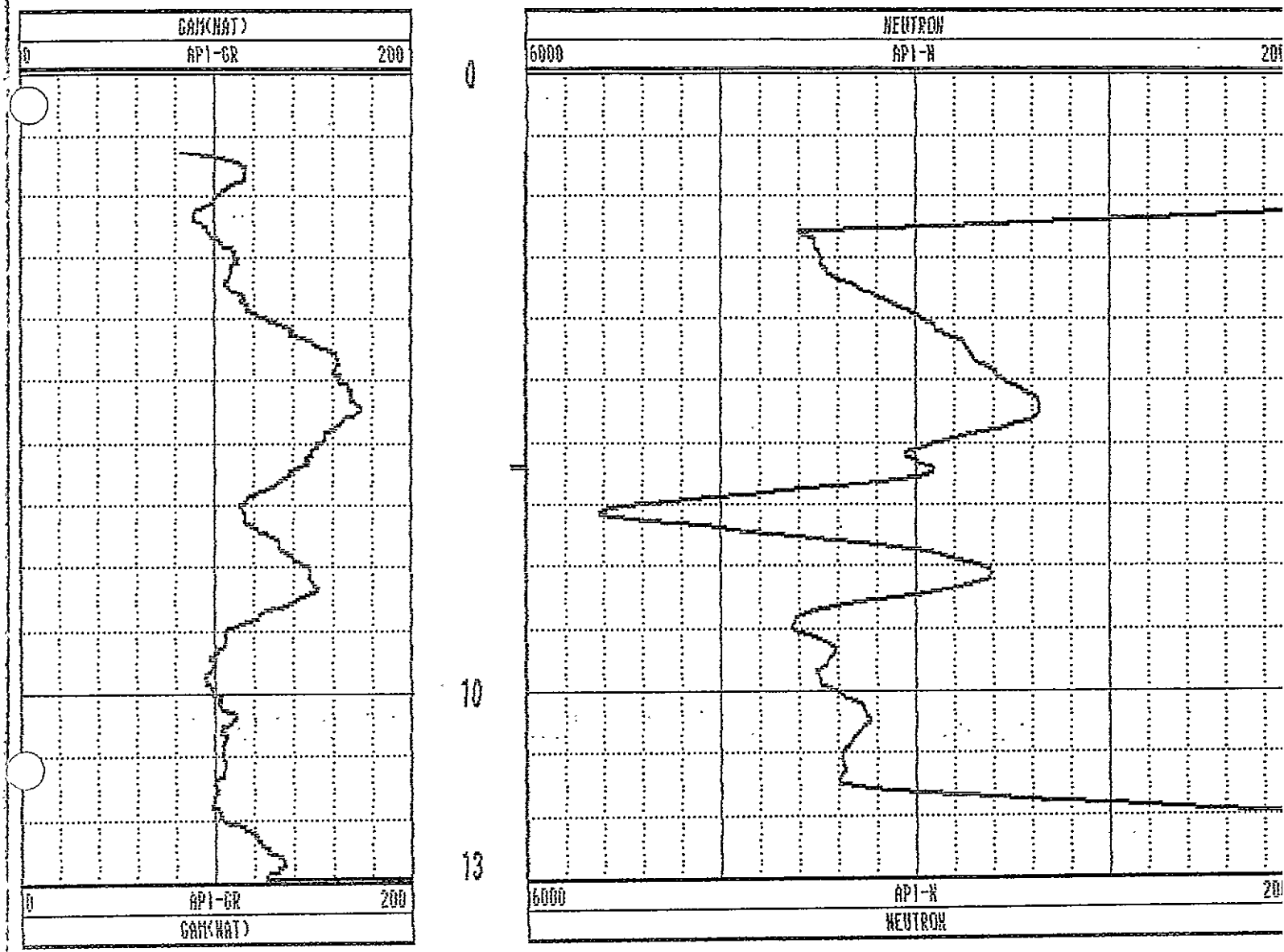
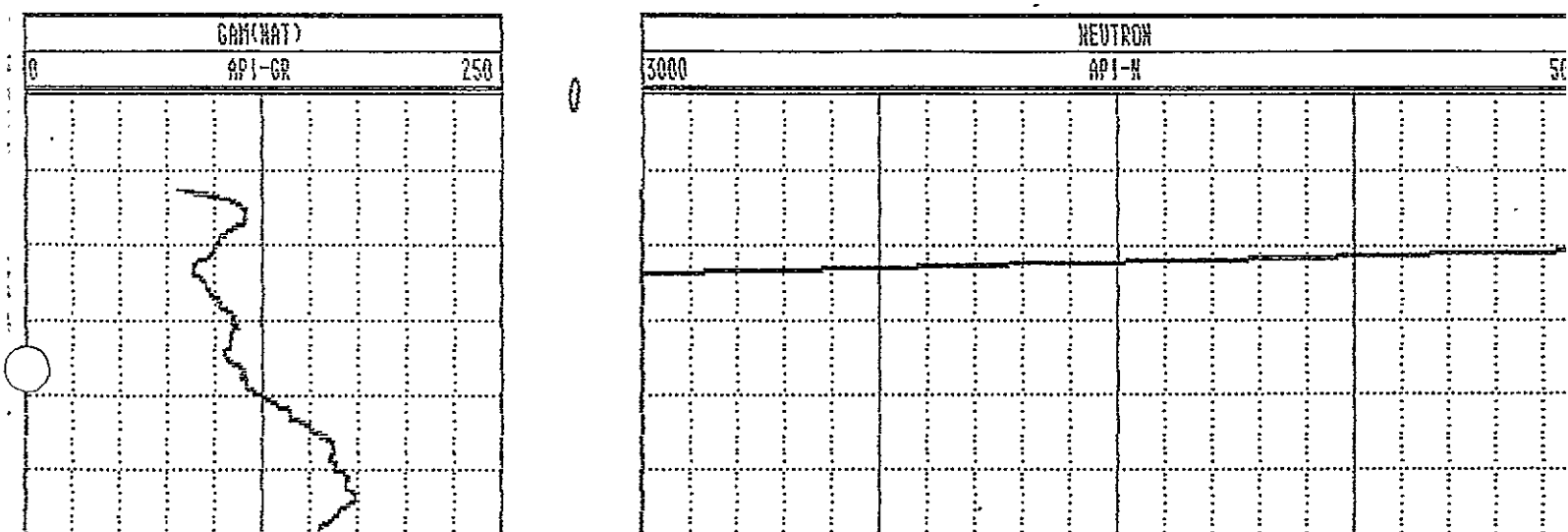
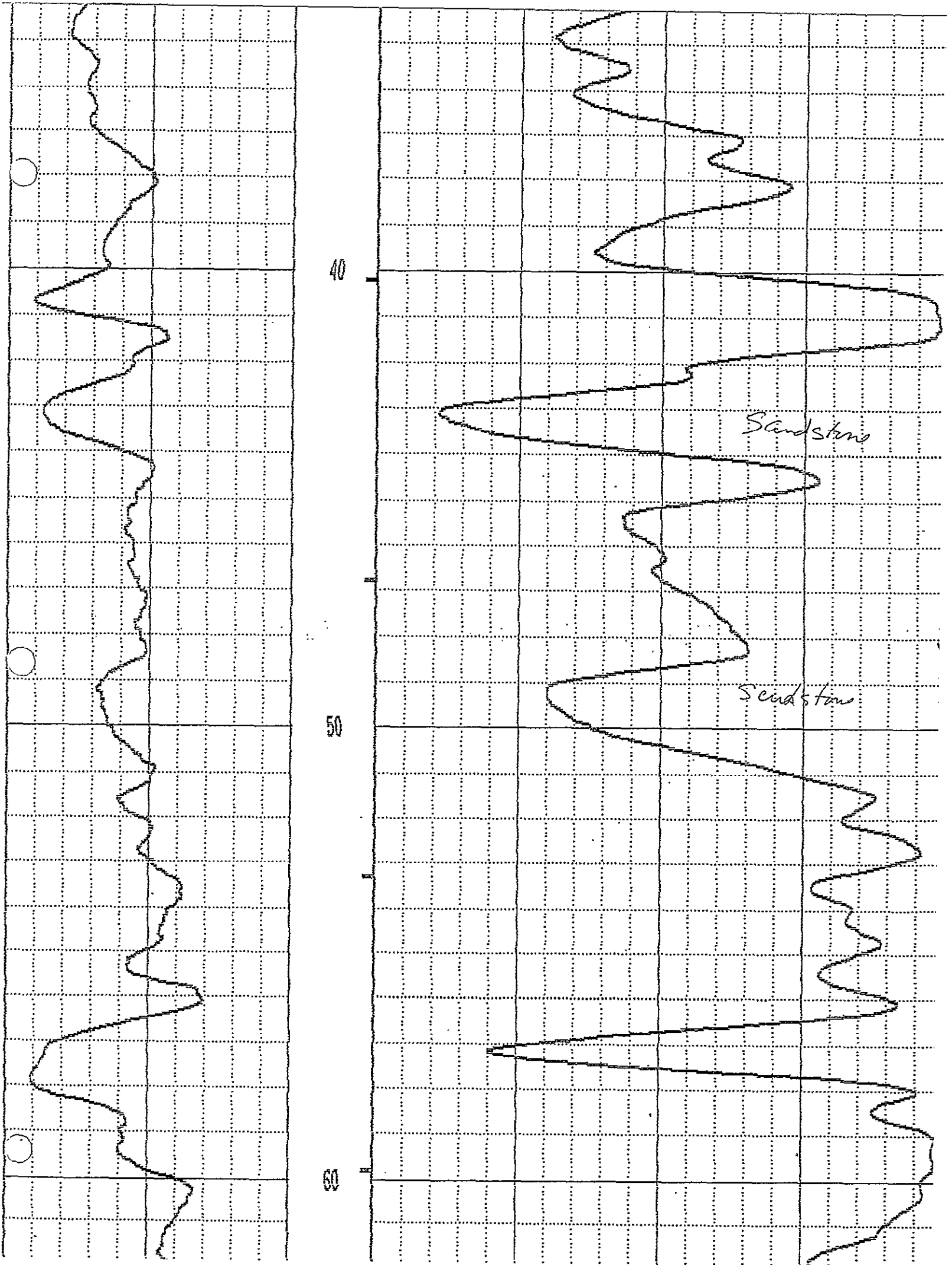
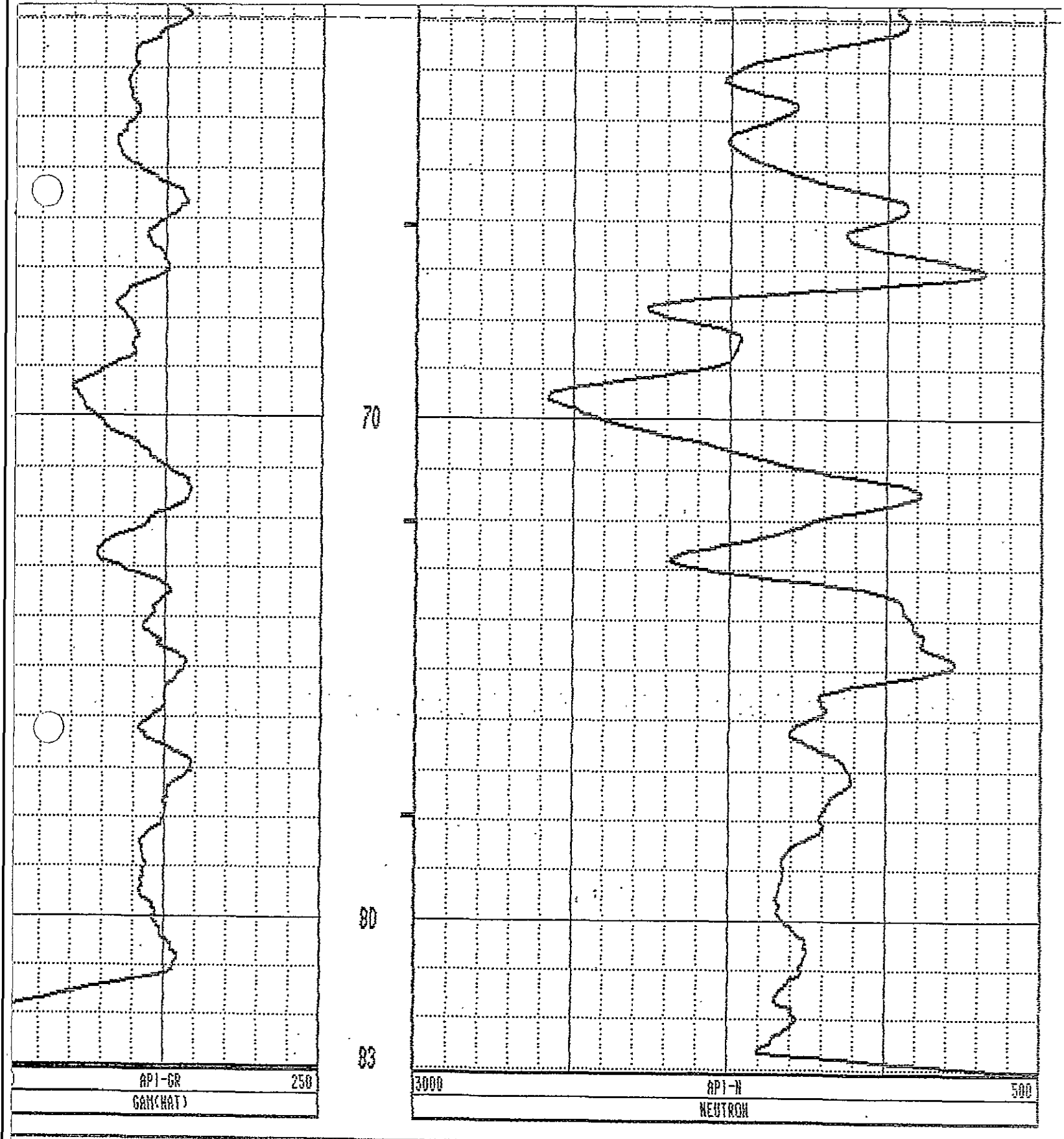
20
30



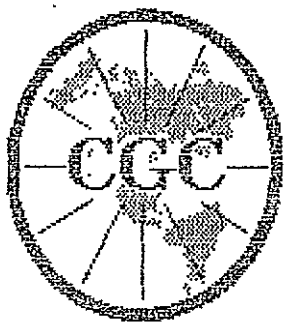
WRH-94002 03/11/94 255




40
50
60
Sandstone
Sandstone



WRH-94002 03/11/94 255



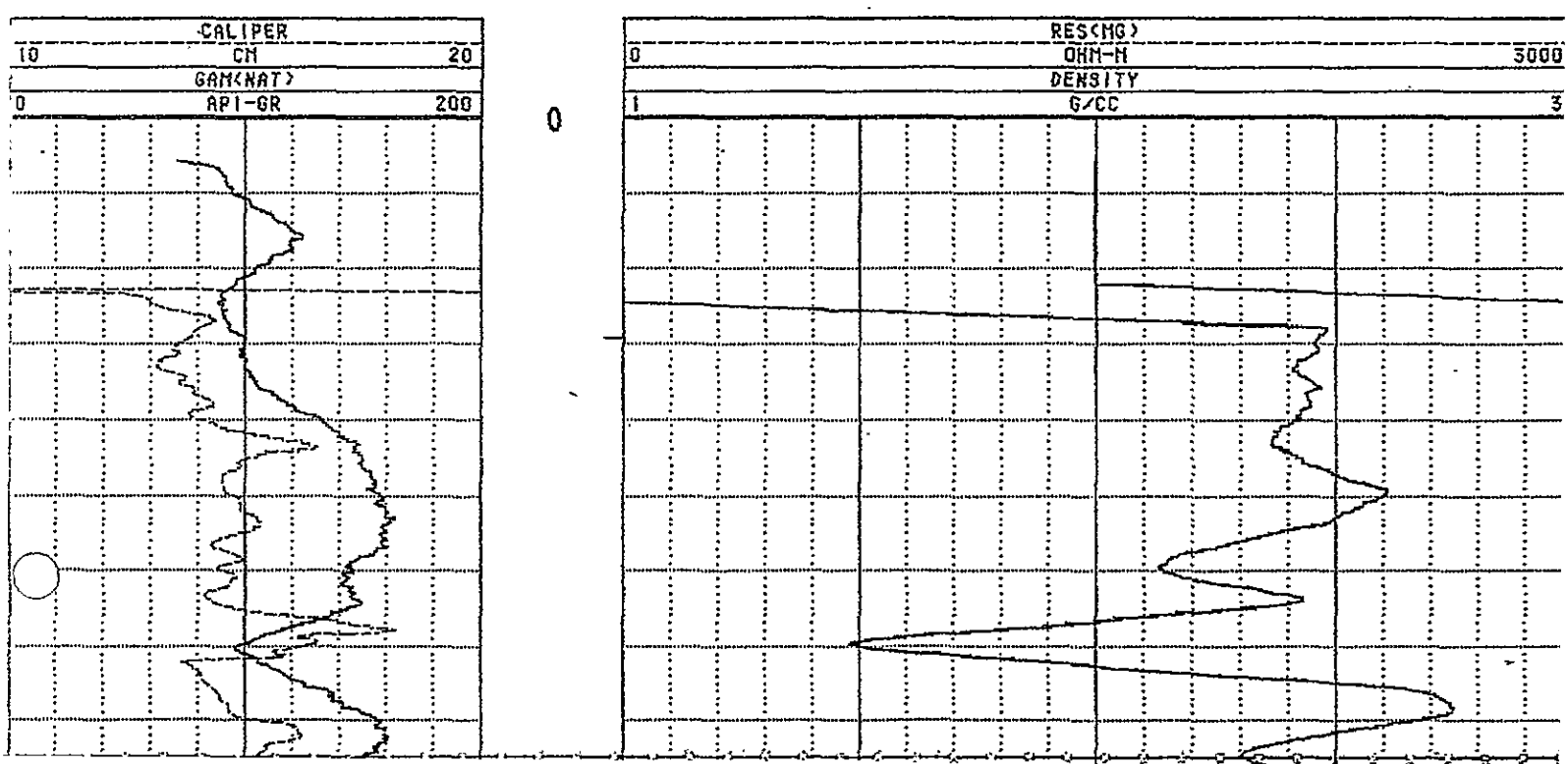
Century GEOPHYSICAL CORP.

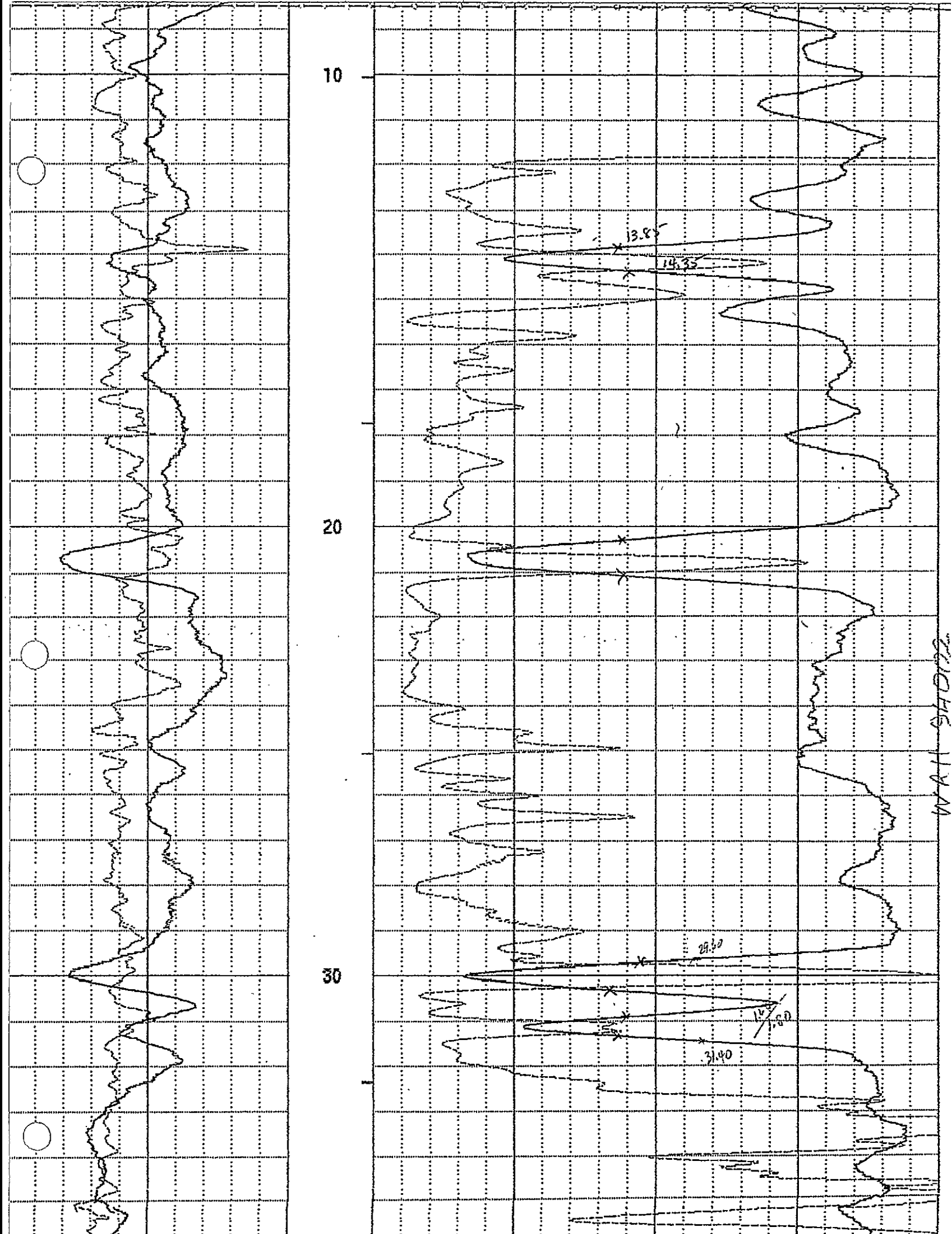
GAMMA-RES-DENSITY

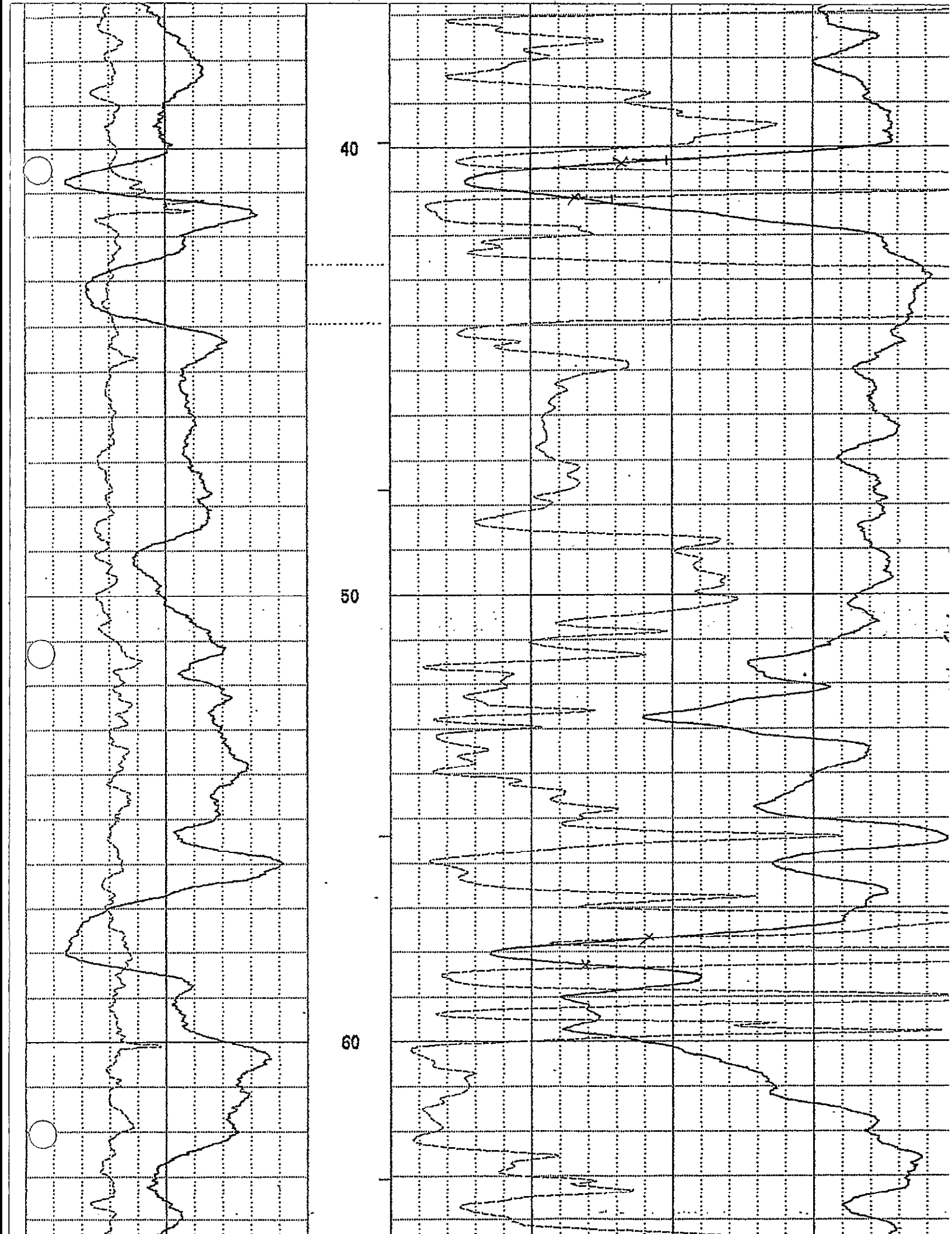
COMPANY	: GLOBALTEX				
WELL	: WRH-94002				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/11/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 100	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 83.86	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.60	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

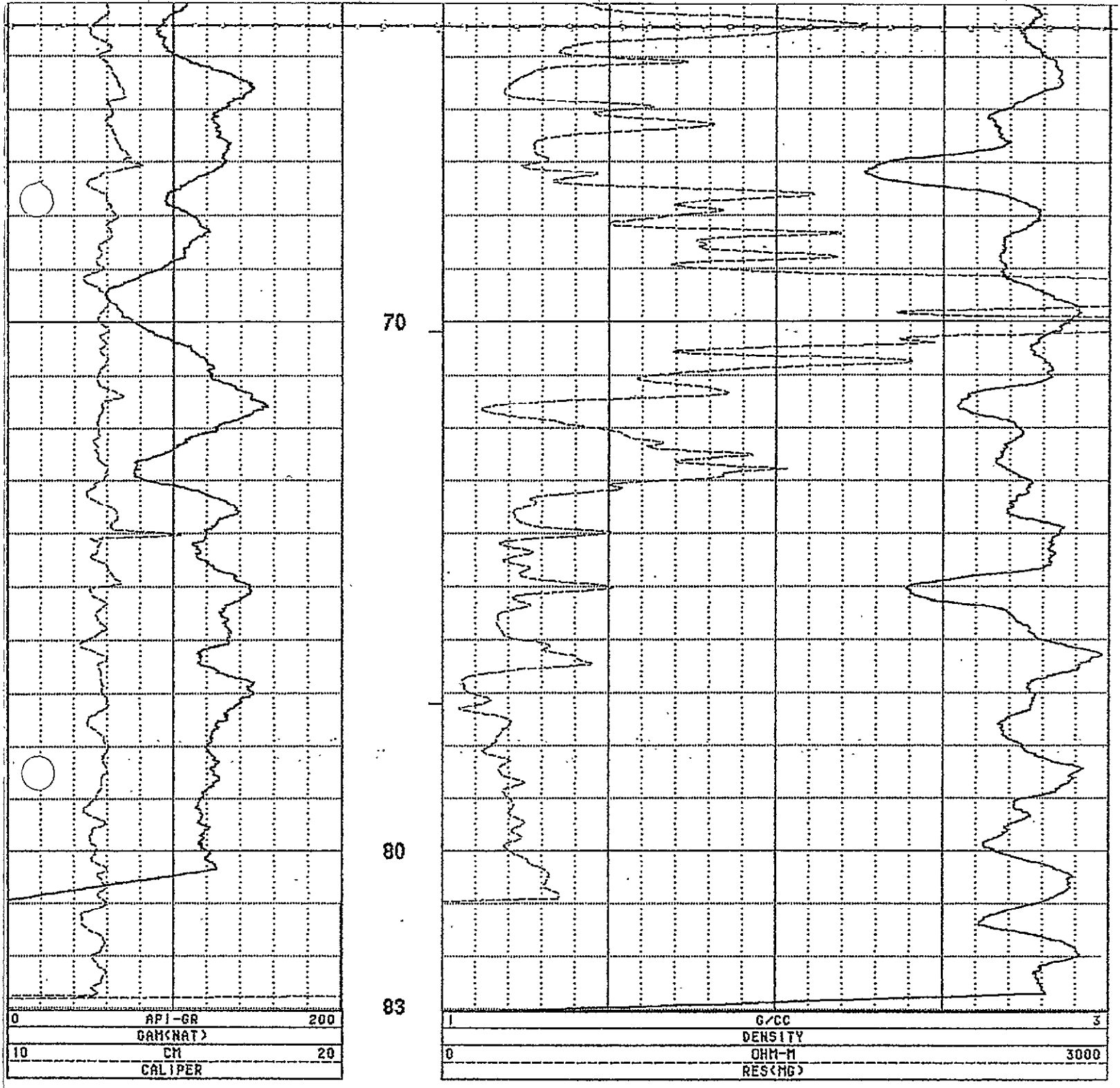
OPEN HOLE

OTHER SERVICES:
9030
9055


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
0
RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
3


10
20
30
13.85
14.35
29.60
31.40

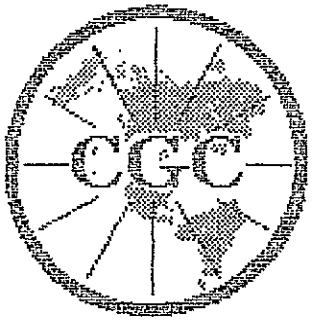

40
50
60



WRH-94002 03/11/94 440

Appendix 3.3

WRH 94003



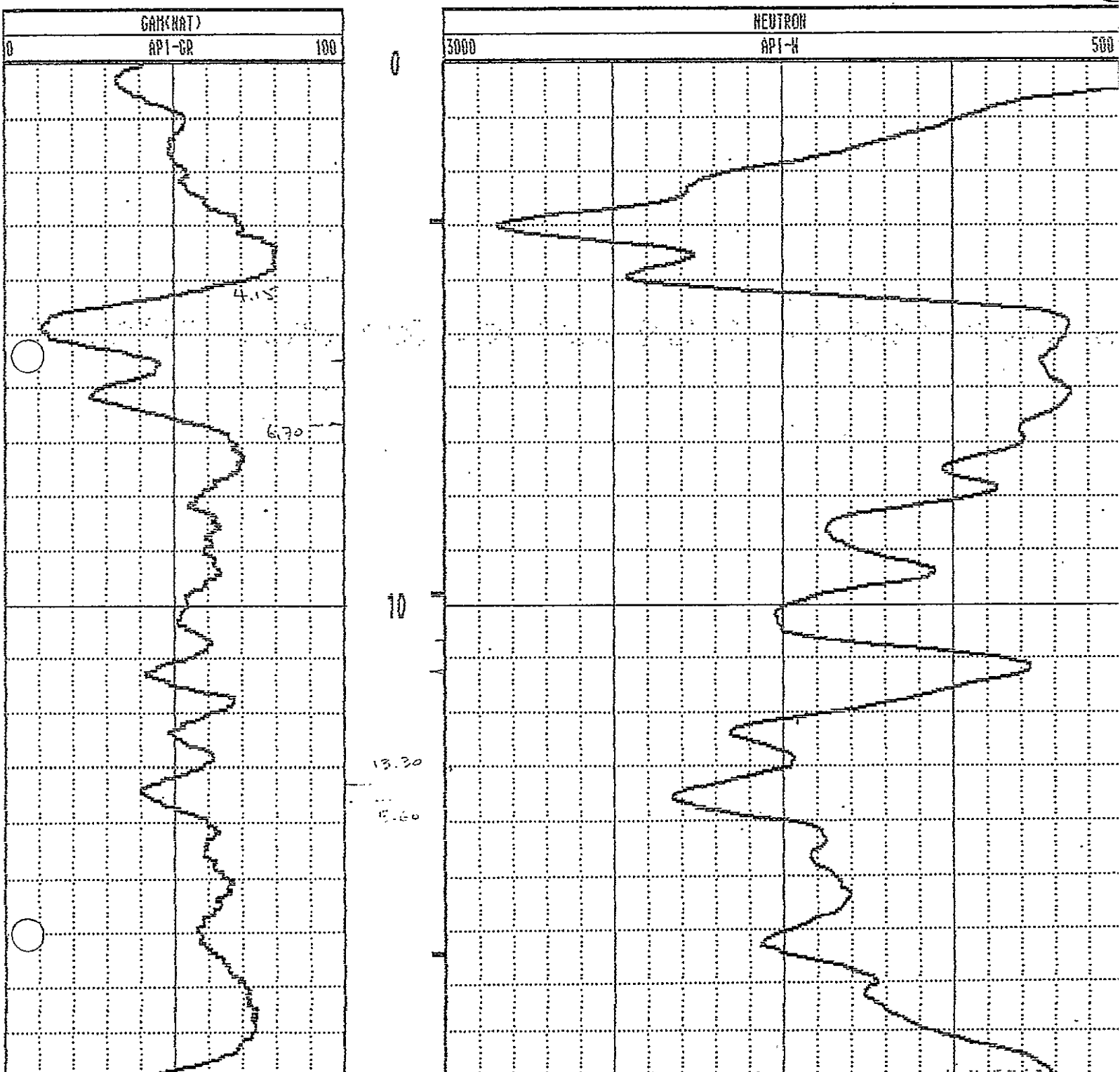
Century GEOPHYSICAL CORP.

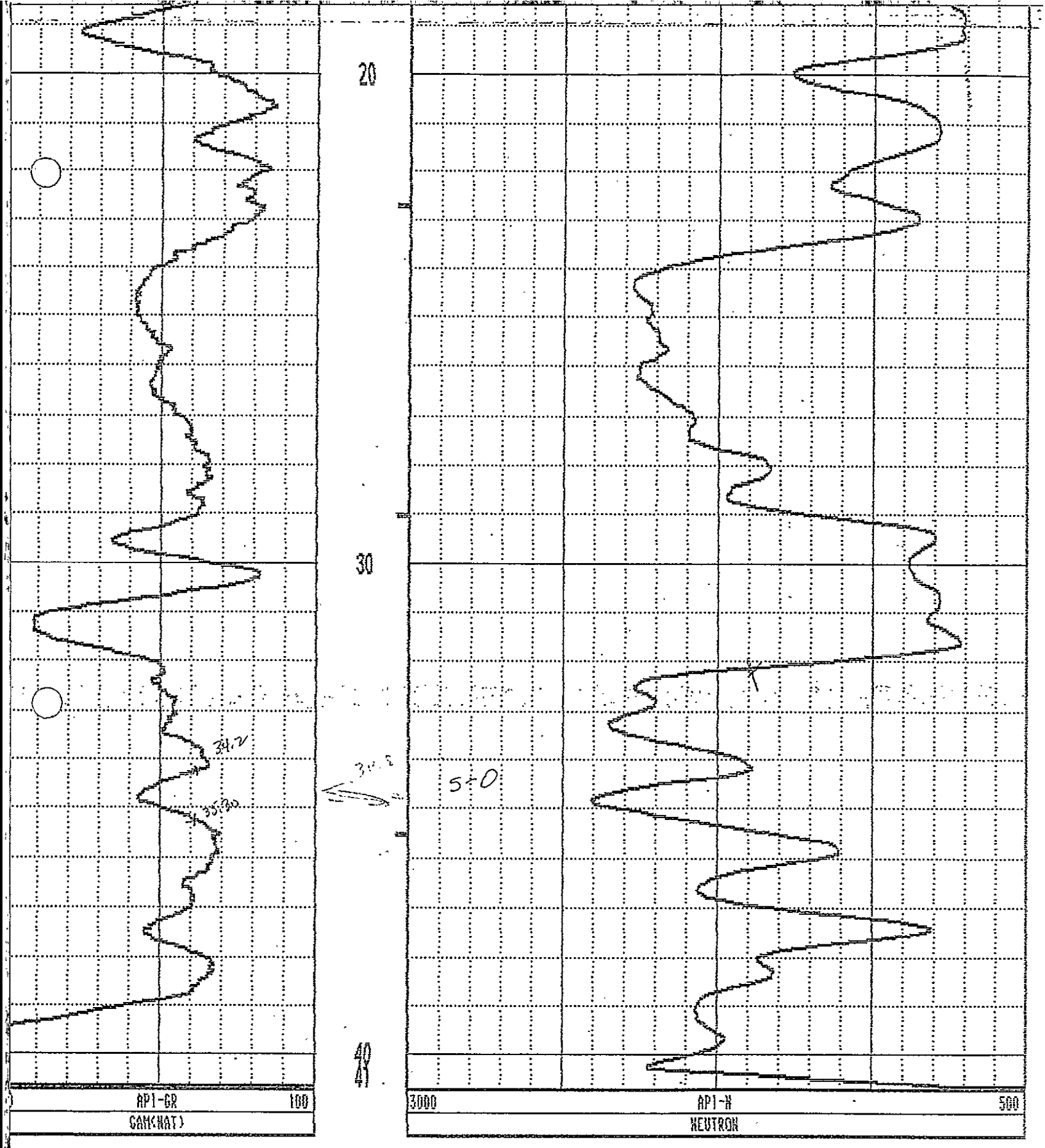
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94003				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/13/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 54.8	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 46.70	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.84	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

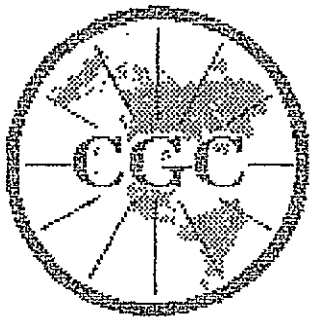
THROUGH RODS

OTHER SERVICES:
9030
9055


GAM(KAT)
0
API-GR
100
NEUTRON
3000
API-N
500
0
10
4.15
6.70
13.30
15.60



WRH-94003 03/13/94 255



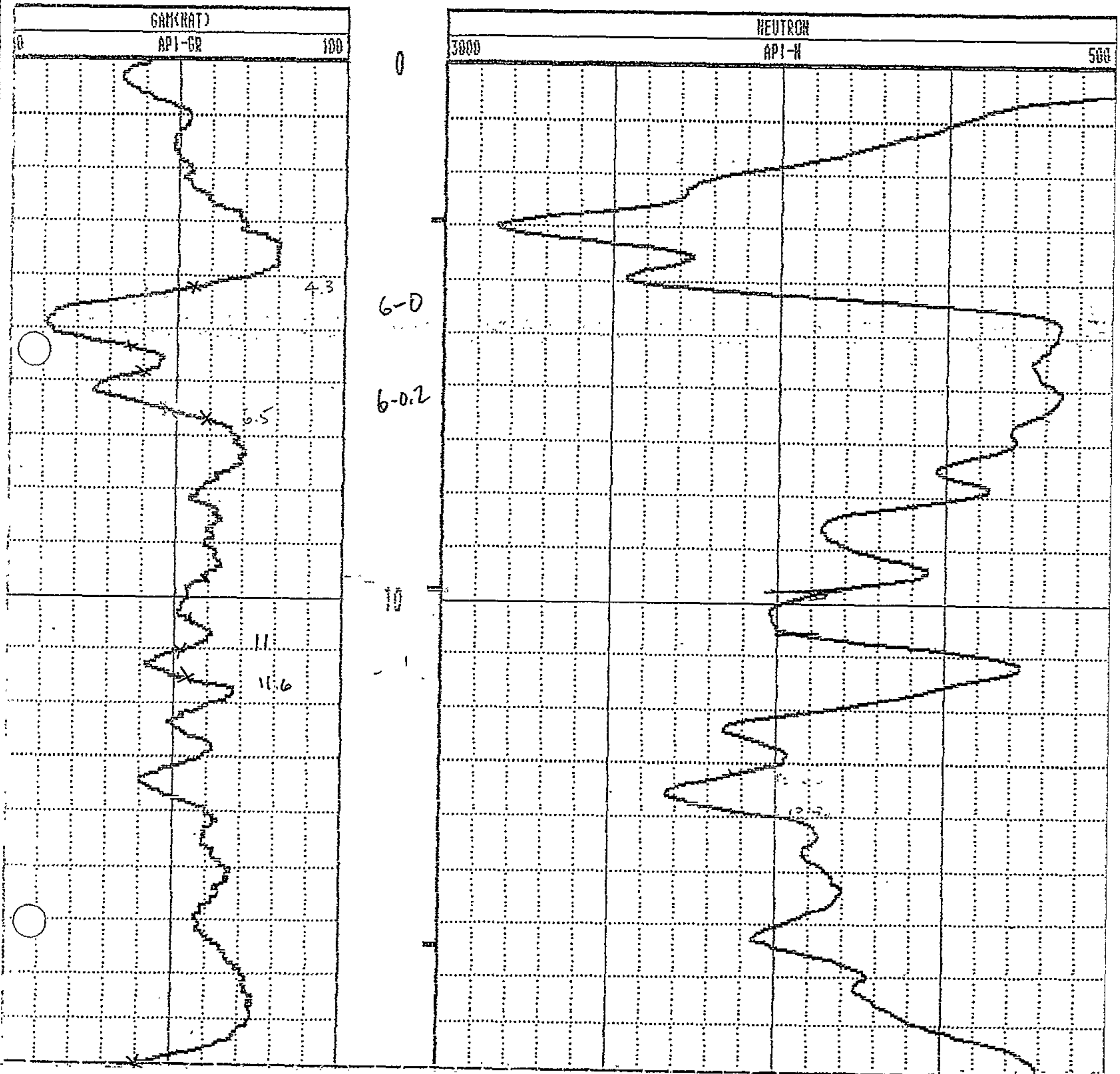
Century GEOPHYSICAL CORP.

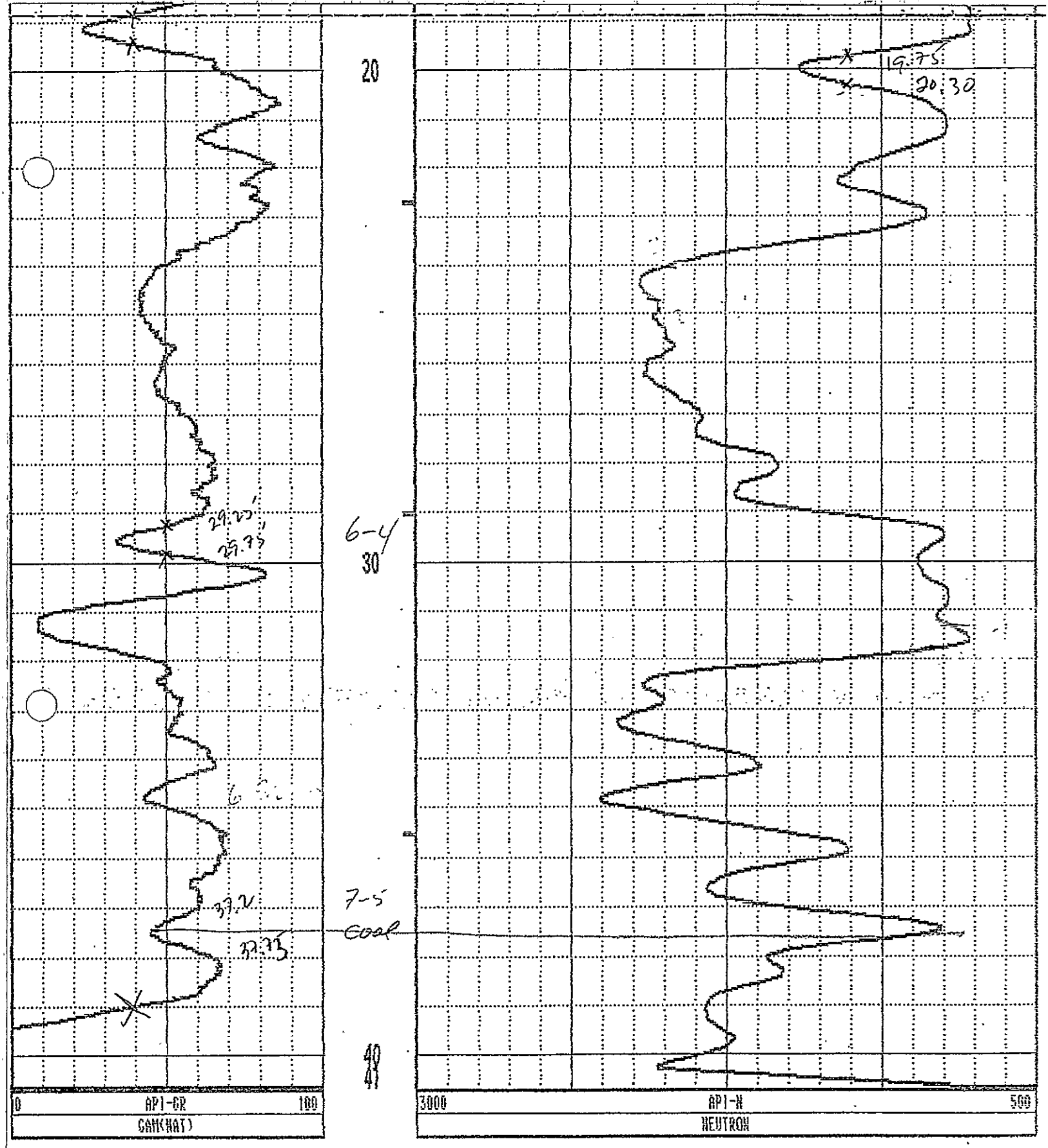
GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94003			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/13/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 54.8	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 40.70'	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.84	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

THROUGH RODS

WRH 94002

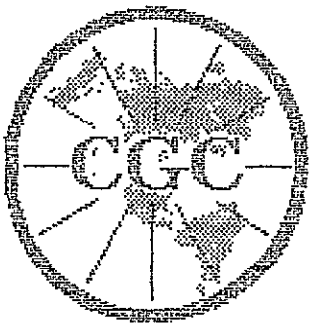

GAM(NAT)
API-GR
0
100
NEUTRON
API-N
3000
500
0
4.3
6-0
6-0.2
6.5
10
11
11.6



WRH-94003 03/13/94 255

Appendix 3.4

WRH 94004

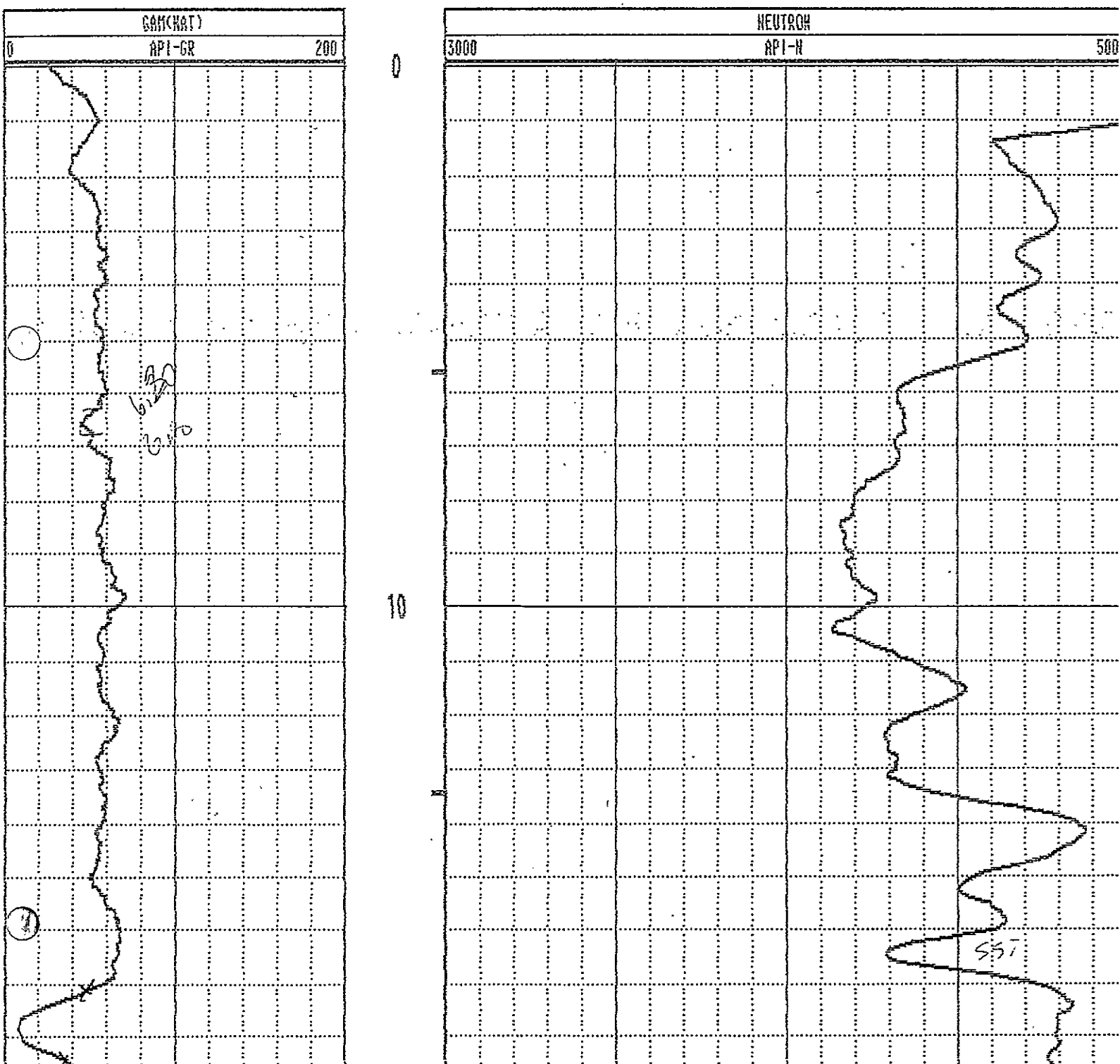


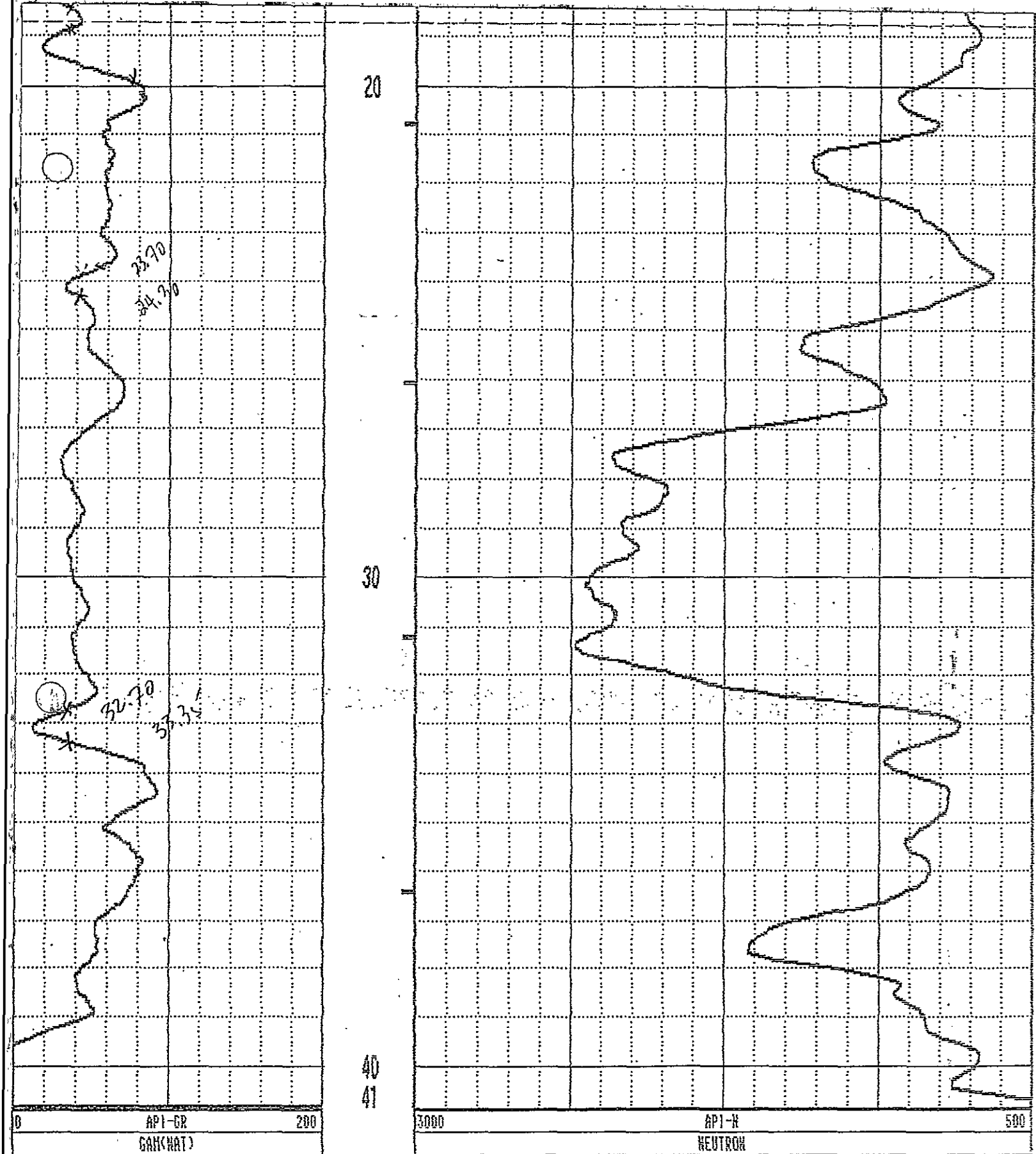
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94004			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/13/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 42.6	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 40.87	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.12	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

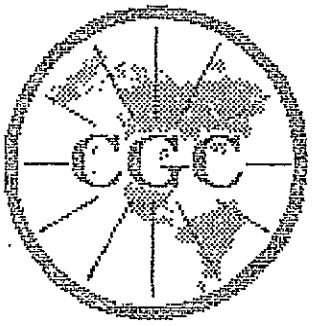
THROUGH RODS


GAM(KAT)
0
API-GR
200
0
10
NEUTRON
3000
API-N
500
SST


20
30
40
41
33.70
34.30
32.70
33.34
0
API-GR
200
GAM(NAT)
3000
API-N
500
NEUTRON

Appendix 3.5

WRH 94005

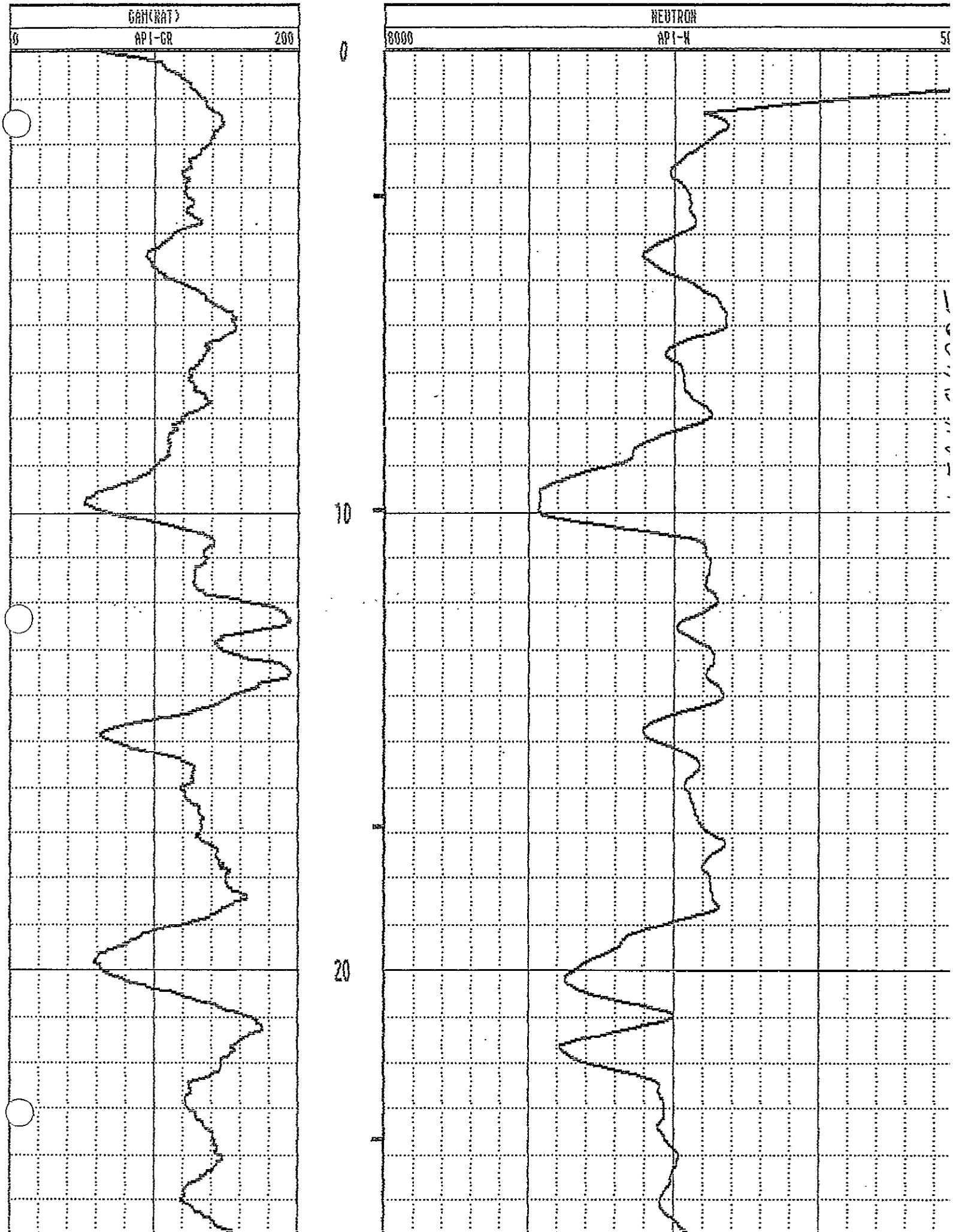


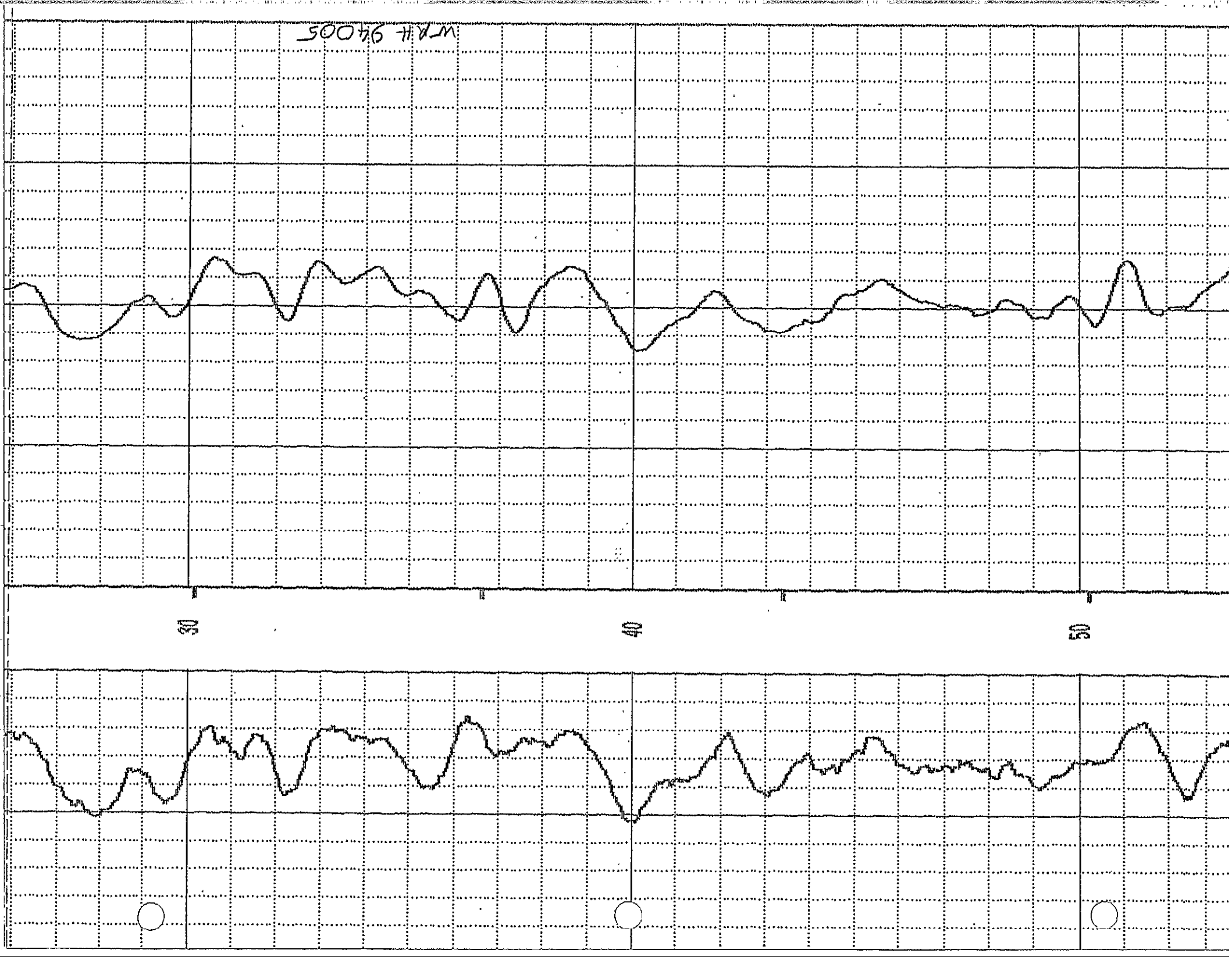
Century GEOPHYSICAL CORP.

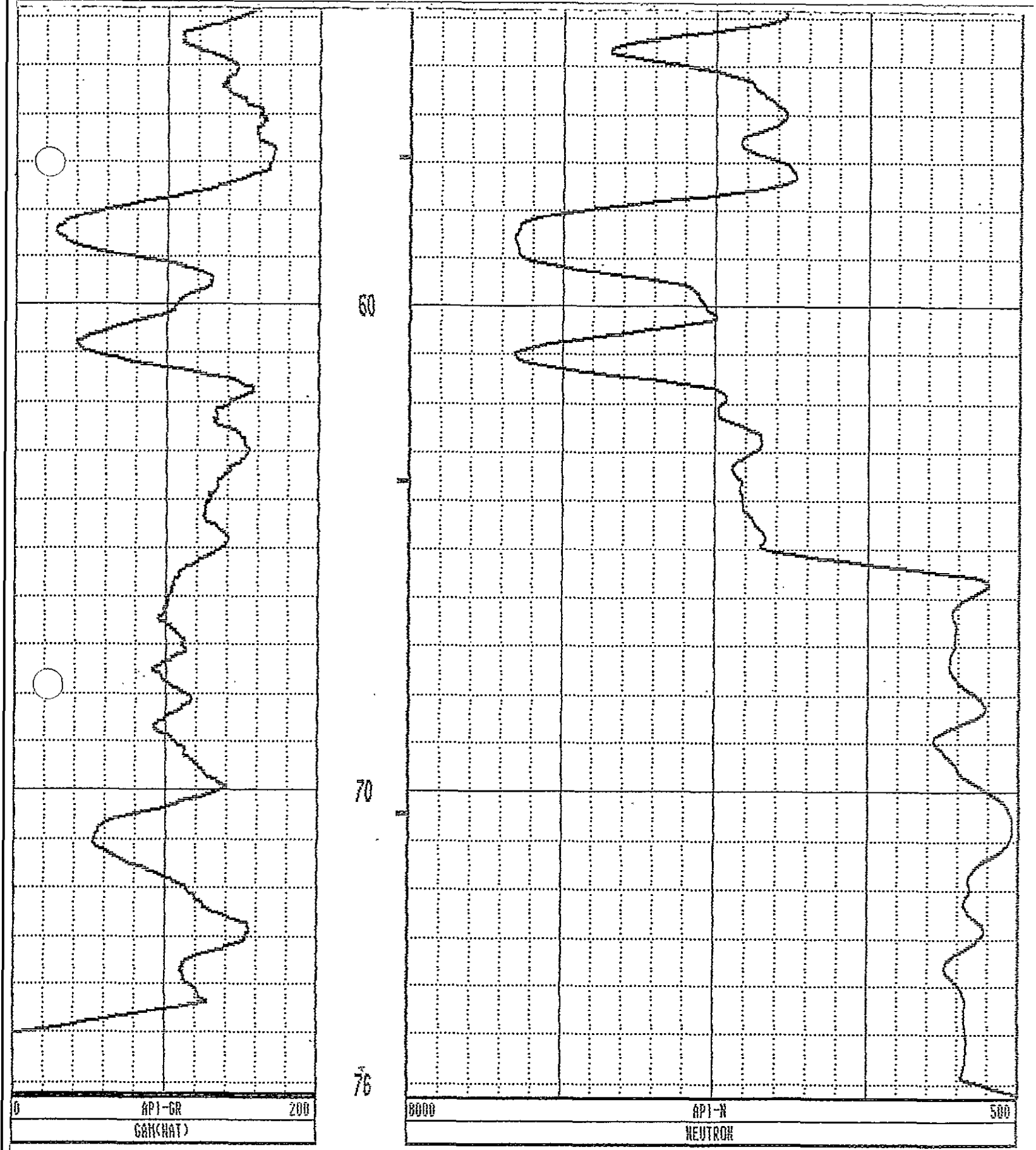
GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94005			9030	
LOCATION/FIELD	: MILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/15/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 76.30	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.00	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

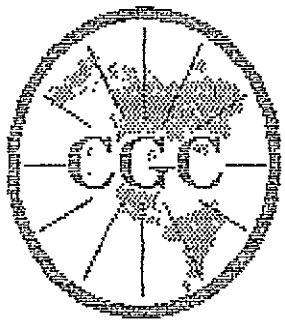
OPEN HOLE


GAM(RAT)
0
API-GR
200
NEUTRON
8000
API-N
0
10
20


30
40
50



WRH-94005 03/15/94 255



Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

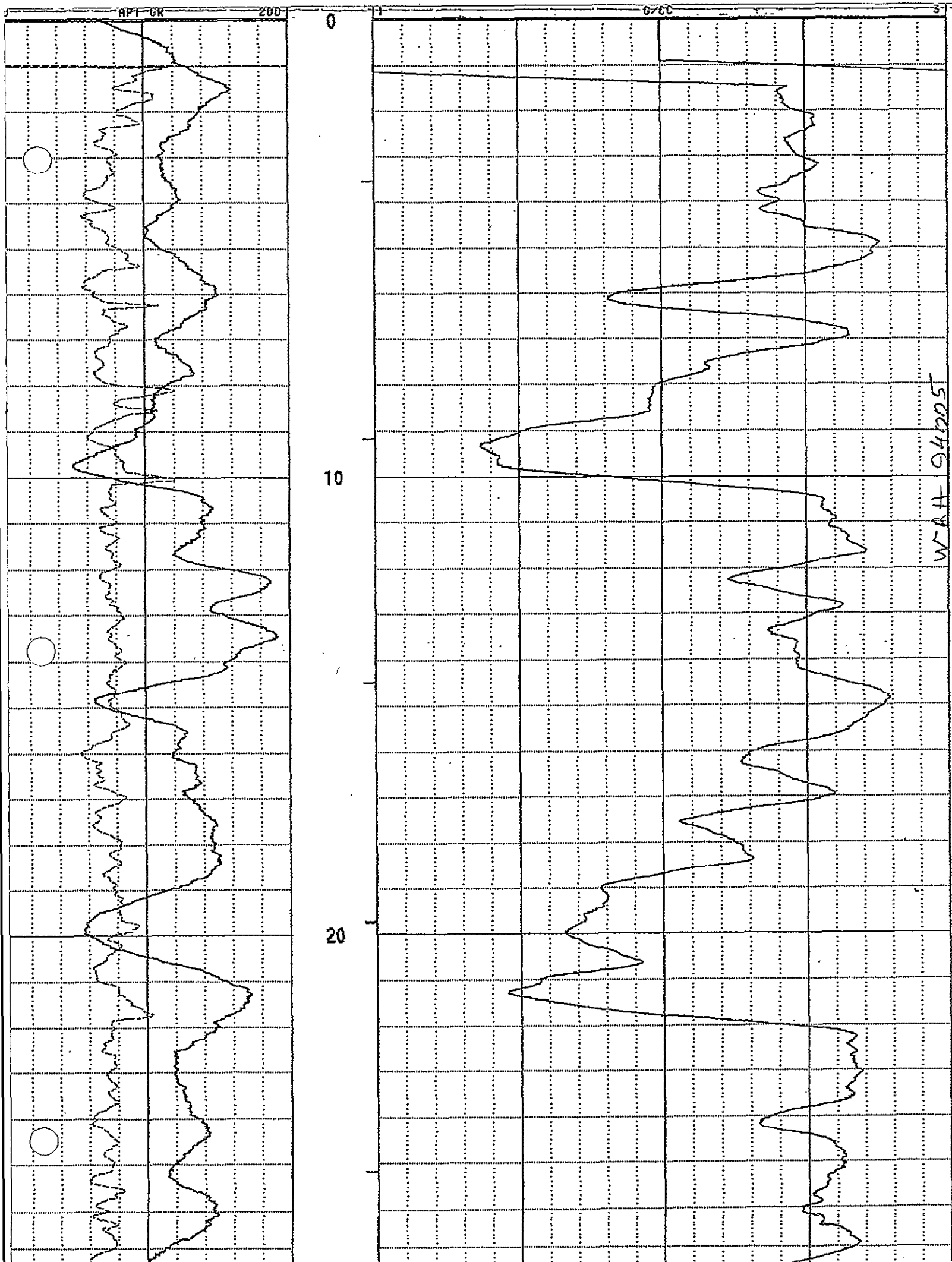
COMPANY	: GLOBALTEX				
WELL	: WRH-94005				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/15/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 76.28	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.76	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

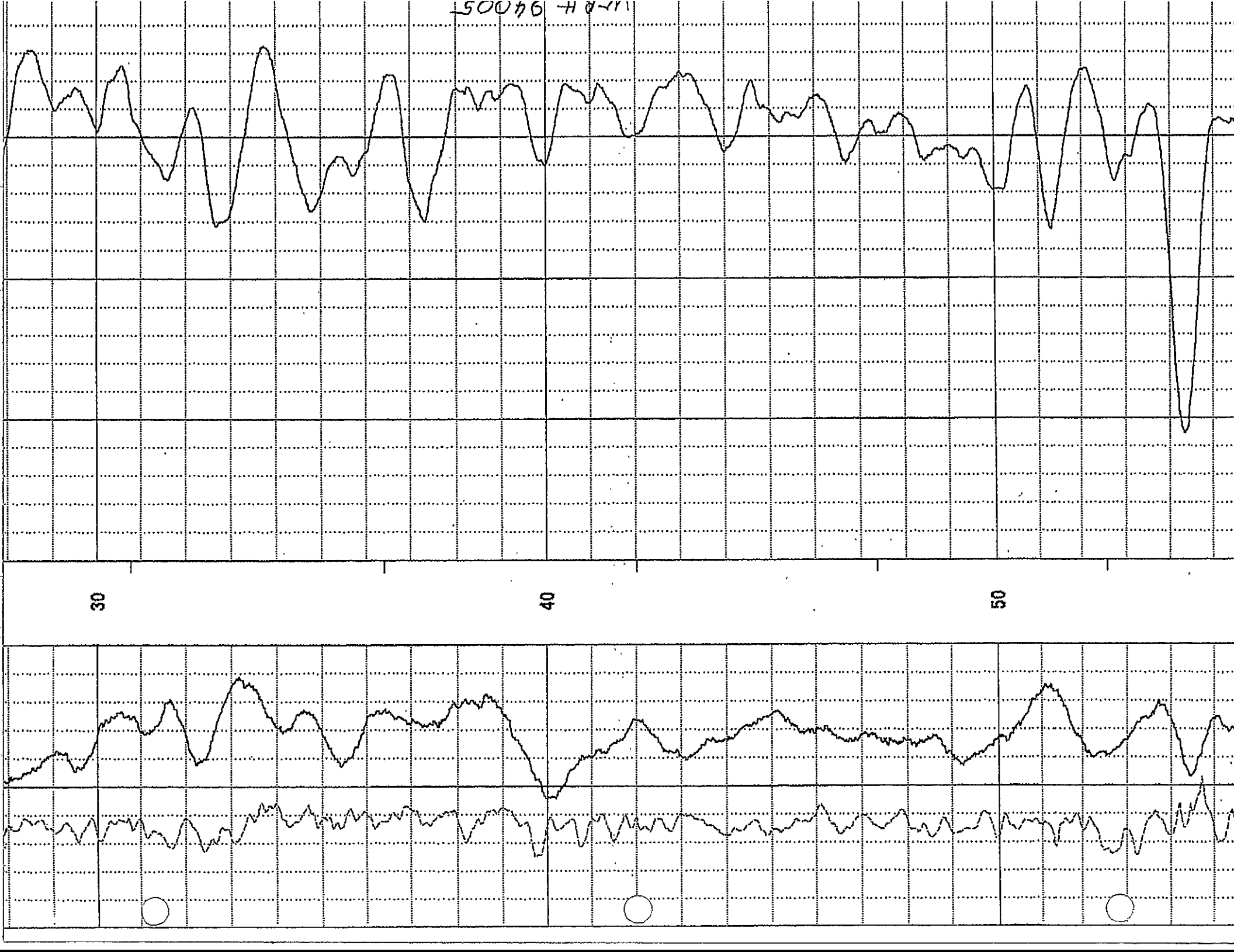
OPEN HOLE

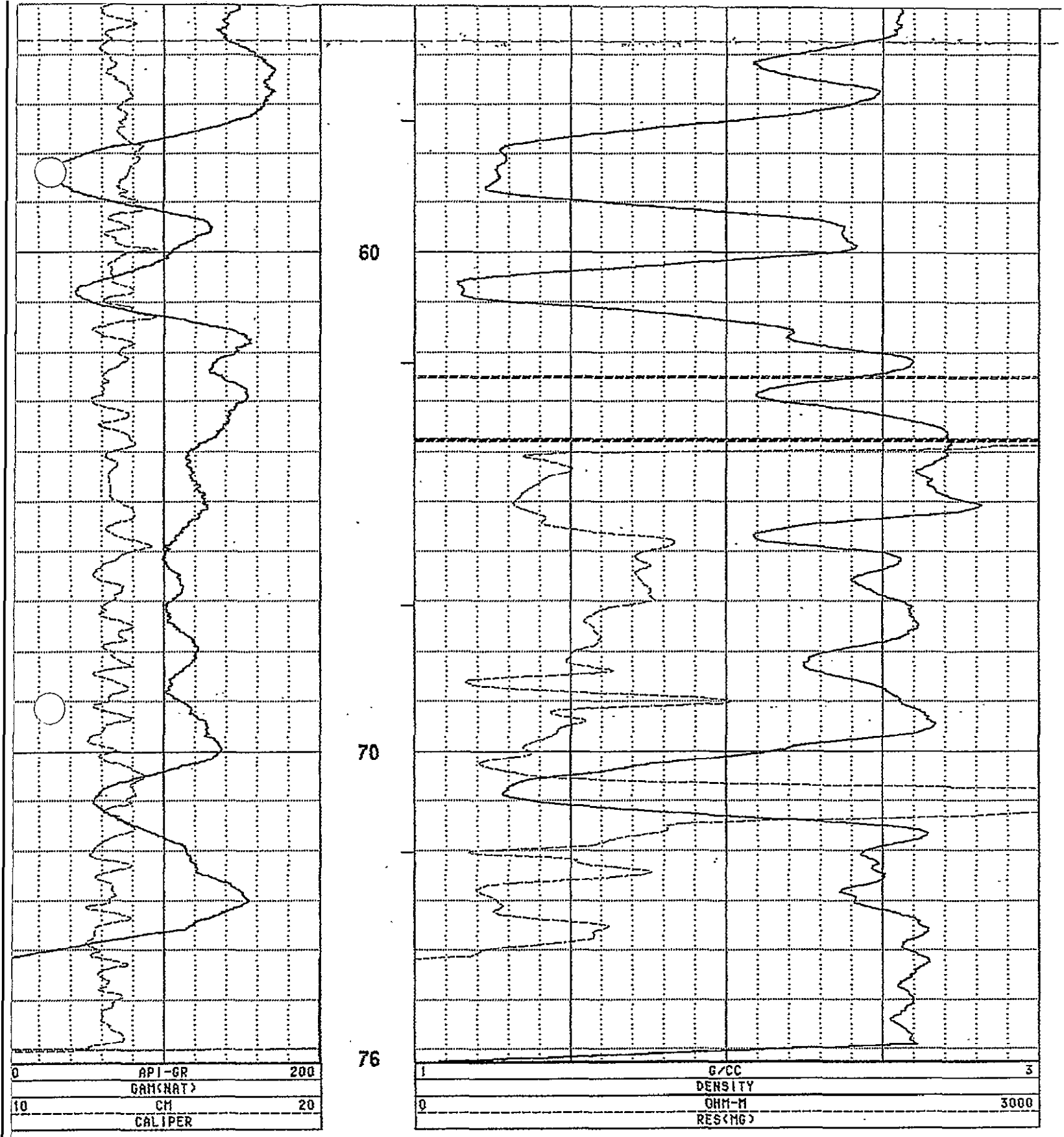
OTHER SERVICES:
9030
9055

CALIPER		
10	CM	20
GAM(NAT)		

RES(MG)		
0	OHM-M	3000
DENSITY		


API GR
200
0
10
20
G/CC
3
WRH 94005


30
40
50

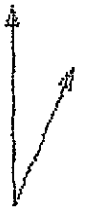


WRH-94005 03/15/94 440

PLAN VIEW

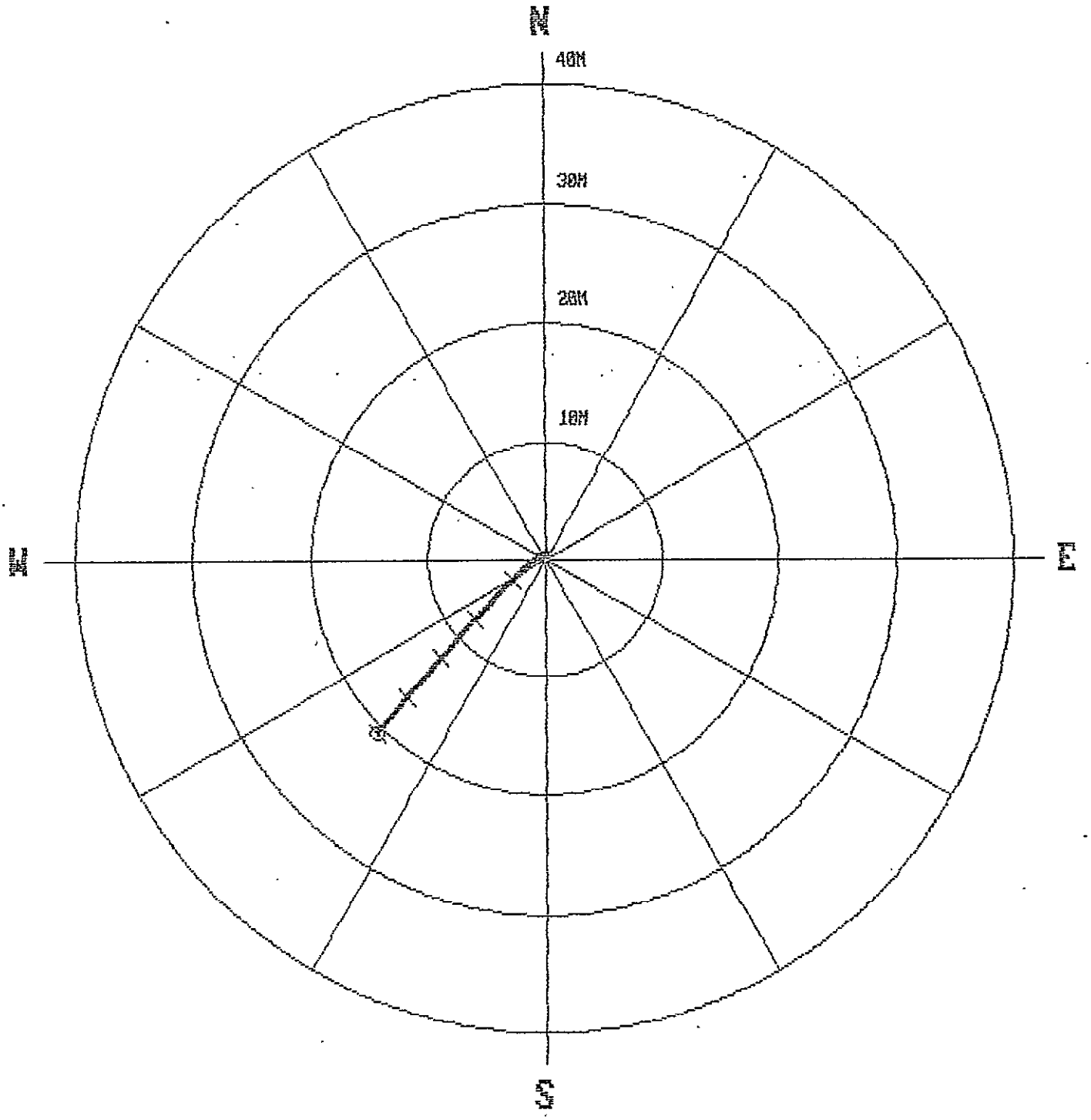
COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94005
DATE OF LOG: 03/14/94
PROBE: 9055A 255



MAG DECL: 24.5

SCALE: 5 M/CM
TRUE DEPTH: 49.57 M
AZIMUTH: 224.4
DISTANCE: 28.5 M
+ = 10 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * *

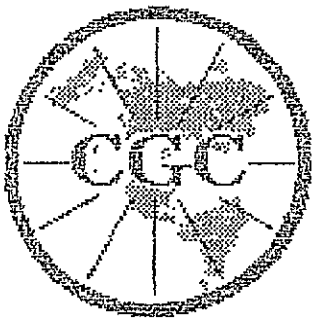
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94005
DATE OF LOG : 03/14/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
0.8	0.84	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.55	0.15	-0.79	0.8	280.7	26.6	220.6
10.0	9.02	-1.36	-2.42	2.8	240.7	26.0	207.7
15.0	13.53	-2.89	-3.94	4.9	233.8	25.6	225.2
20.0	18.06	-4.42	-5.40	7.0	230.7	24.8	223.9
25.0	22.62	-5.92	-6.79	9.0	228.9	23.9	222.2
30.0	27.19	-7.45	-8.11	11.0	227.4	24.3	217.5
35.0	31.77	-8.95	-9.42	13.0	226.5	24.0	222.5
40.0	36.35	-10.45	-10.75	15.0	225.8	23.7	223.1
45.0	40.94	-11.93	-12.07	17.0	225.3	23.0	213.9
50.0	45.55	-13.40	-13.32	18.9	224.8	22.2	219.6
54.3	49.57	-14.67	-14.34	20.5	224.4	21.8	217.7
55.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.6

WRH 94006



Century GEOPHYSICAL CORP.

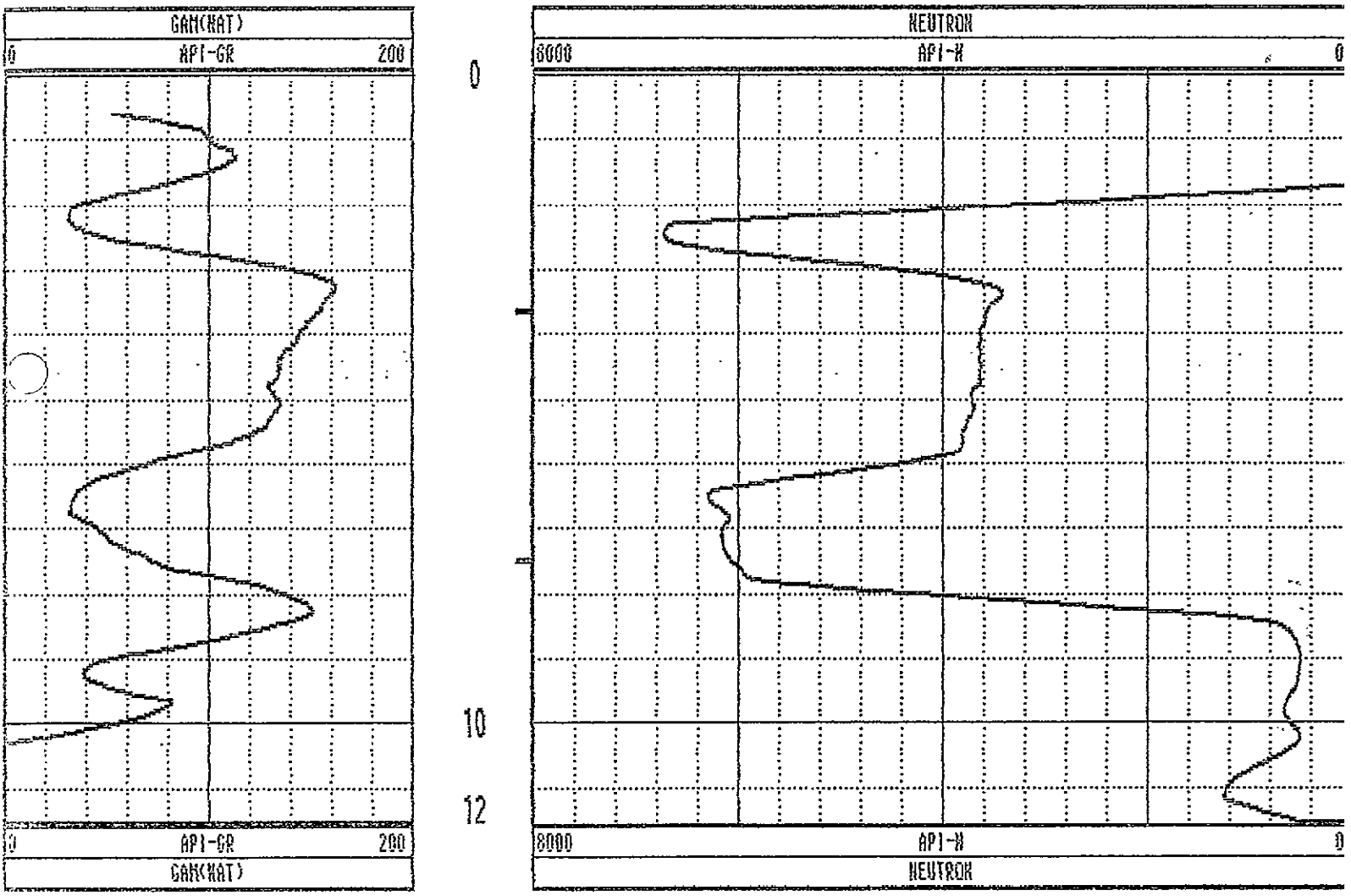
GAMMA-NEUTRON

COMPANY	:	GLOBALTEX					
WELL	:	WRH-94006					
LOCATION/FIELD	:	WILLOW CREEK					
COUNTY	:	CHETWYND					
STATE	:	B.C.					
SECTION	:		TOWNSHIP	:		RANGE	:
DATE	:	03/17/94	PERMANENT DATUM	:	GL	ELEVATIONS	
DEPTH DRILLER	:	10.9	ELEV. PERM. DATUM	:		KB	:
LOG BOTTOM	:	11.58	LOG MEASURED FROM	:	GL	DF	:
LOG TOP	:	0.64	DRL MEASURED FROM	:	GL	GL	:
CASING DRILLER	:	22.55	LOGGING UNIT	:	8903		
CASING TYPE	:	STEEL	FIELD OFFICE	:	CALGARY		
CASING THICKNESS	:	0.12	RECORDED BY	:	T. LEWYCKYJ		
BIT SIZE	:	13.5	BOREHOLE FLUID	:	WATER	FILE	: ORIGINAL
MAGNETIC DECL.	:	24.5	RM	:		TYPE	: 9055A
MATRIX DENSITY	:	2.65	RM TEMPERATURE	:		LOG	: 2
FLUID DENSITY	:	1.00	MATRIX DELTA T	:	173	PLOT	: G.TEX 0
NEUTRON MATRIX	:	SANDSTONE	FLUID DELTA T	:	690	THRESH	: 30000
REMARKS	:						

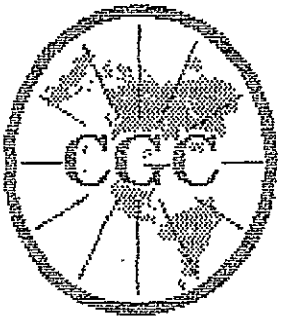
OPEN HOLE

OTHER SERVICES:
9030
9055

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



WRH-94006 03/17/94 255



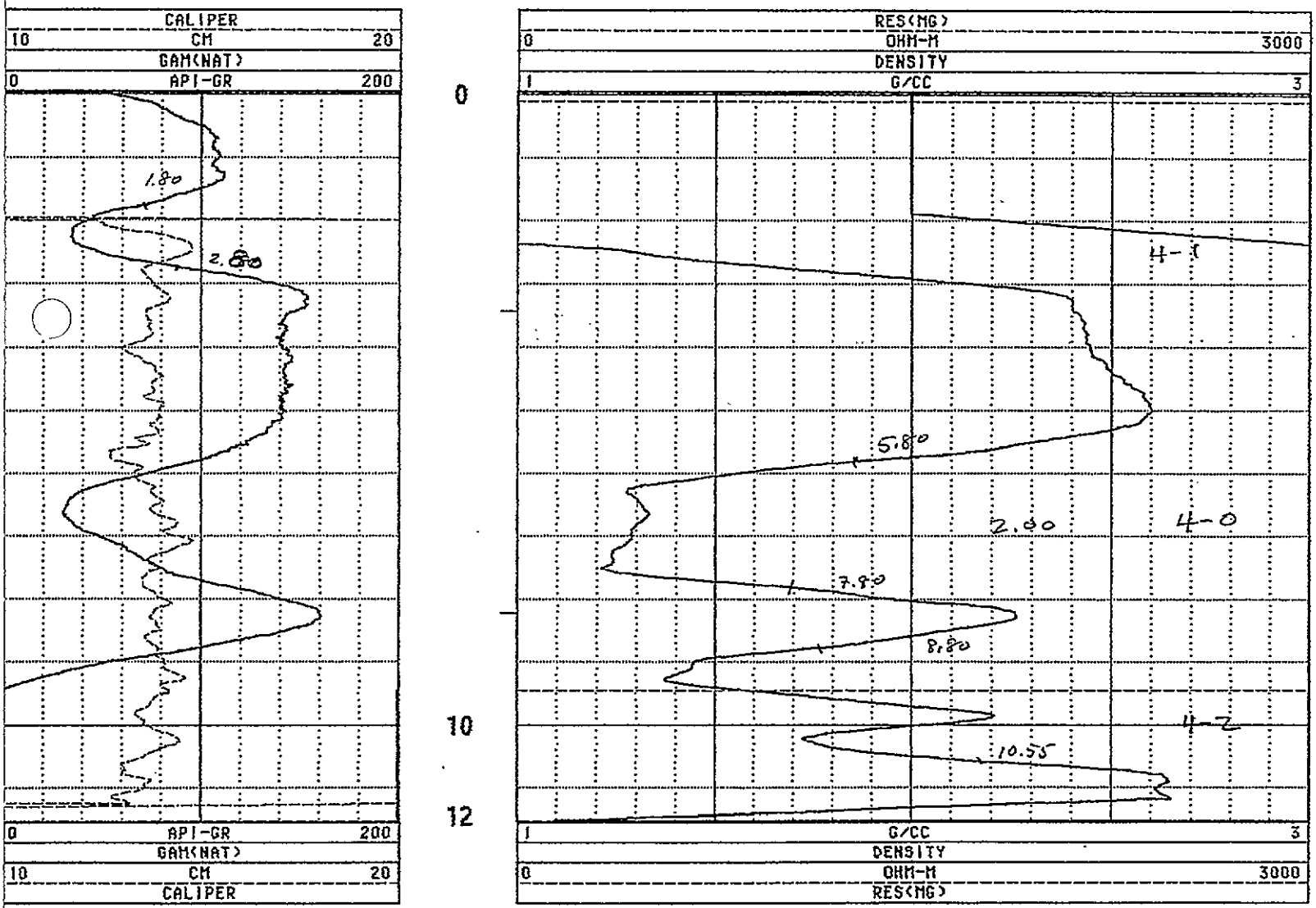
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94006				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 10.9	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 11.56	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: -0.08	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 698	THRESH	: 30000

OTHER SERVICES:
9030
9055

REMARKS :
OPEN HOLE



WRH-94006 03/17/94 440

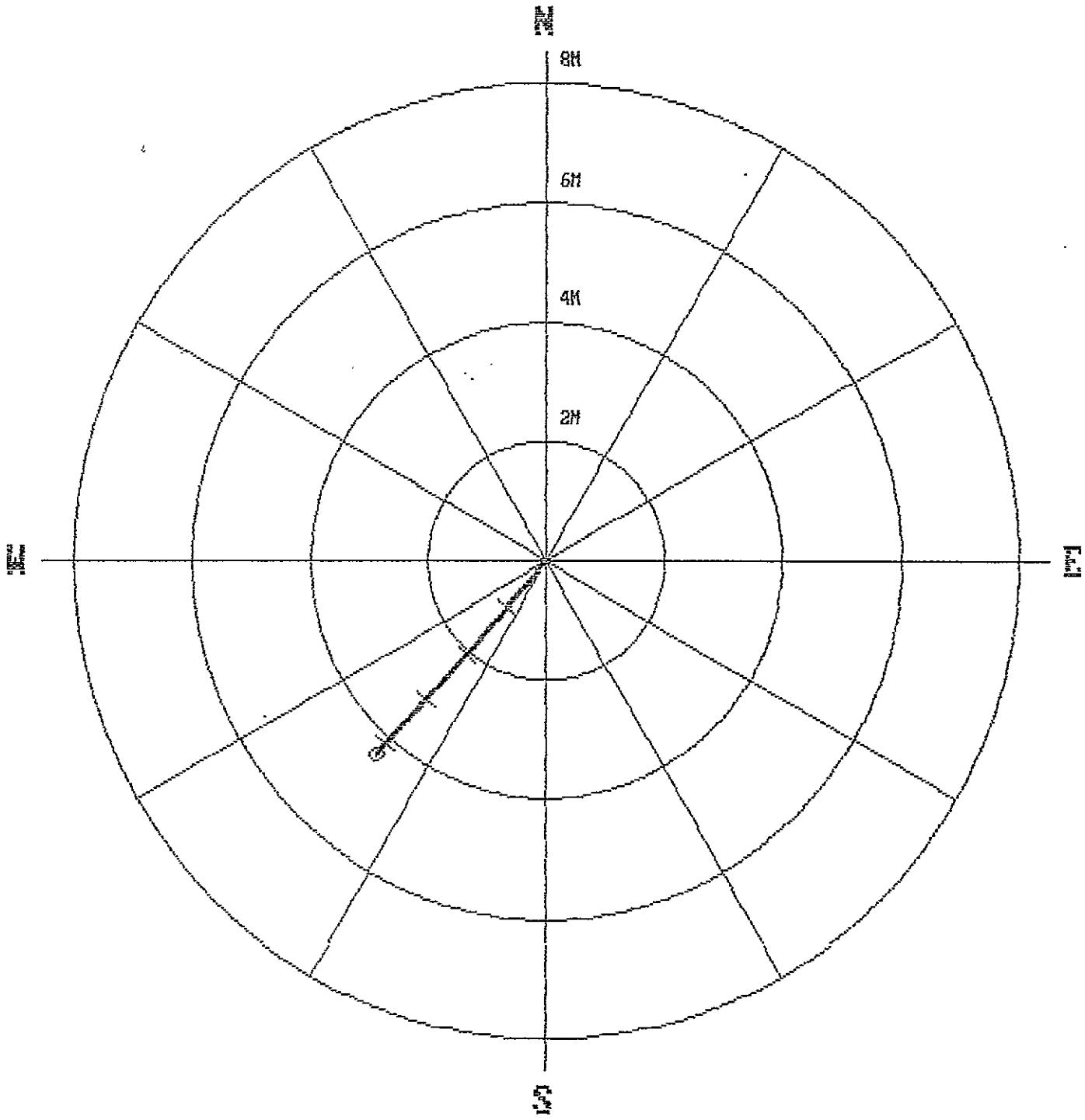
PLAN VIEW

COMPU-LOG DEVIATION

IENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94006
DATE OF LOG: 03/17/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 1 M/CM
TRUE DEPTH: 10.45 M
AZIMUTH: 221.5
DISTANCE: 4.3 M
+ = 2 M INCR
○ = BOTTOM OF HOLE



2.0	2.00	0.00	0.00	0.0	0.0	0.0	0.0
4.0	3.78	-0.68	-0.58	0.9	220.4	27.3	219.6
6.0	5.56	-1.38	-1.18	1.8	220.6	27.5	220.6
8.0	7.33	-2.06	-1.80	2.7	221.1	27.2	223.2
10.0	9.11	-2.73	-2.41	3.6	221.4	27.2	222.4
11.5	10.45	-3.24	-2.87	4.3	221.5	27.2	224.0

* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

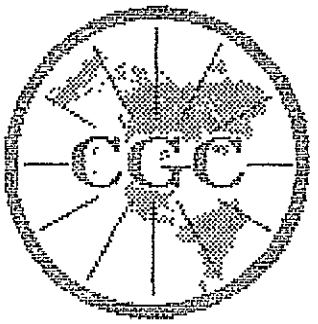
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94006
DATE OF LOG : 03/17/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.1	2.06	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.67	-1.03	-0.88	1.4	220.3	27.5	222.2
10.0	9.11	-2.73	-2.41	3.6	221.4	27.2	222.4
11.5	10.45	-3.24	-2.87	4.3	221.5	27.2	224.0
15.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.7

WRH 94007



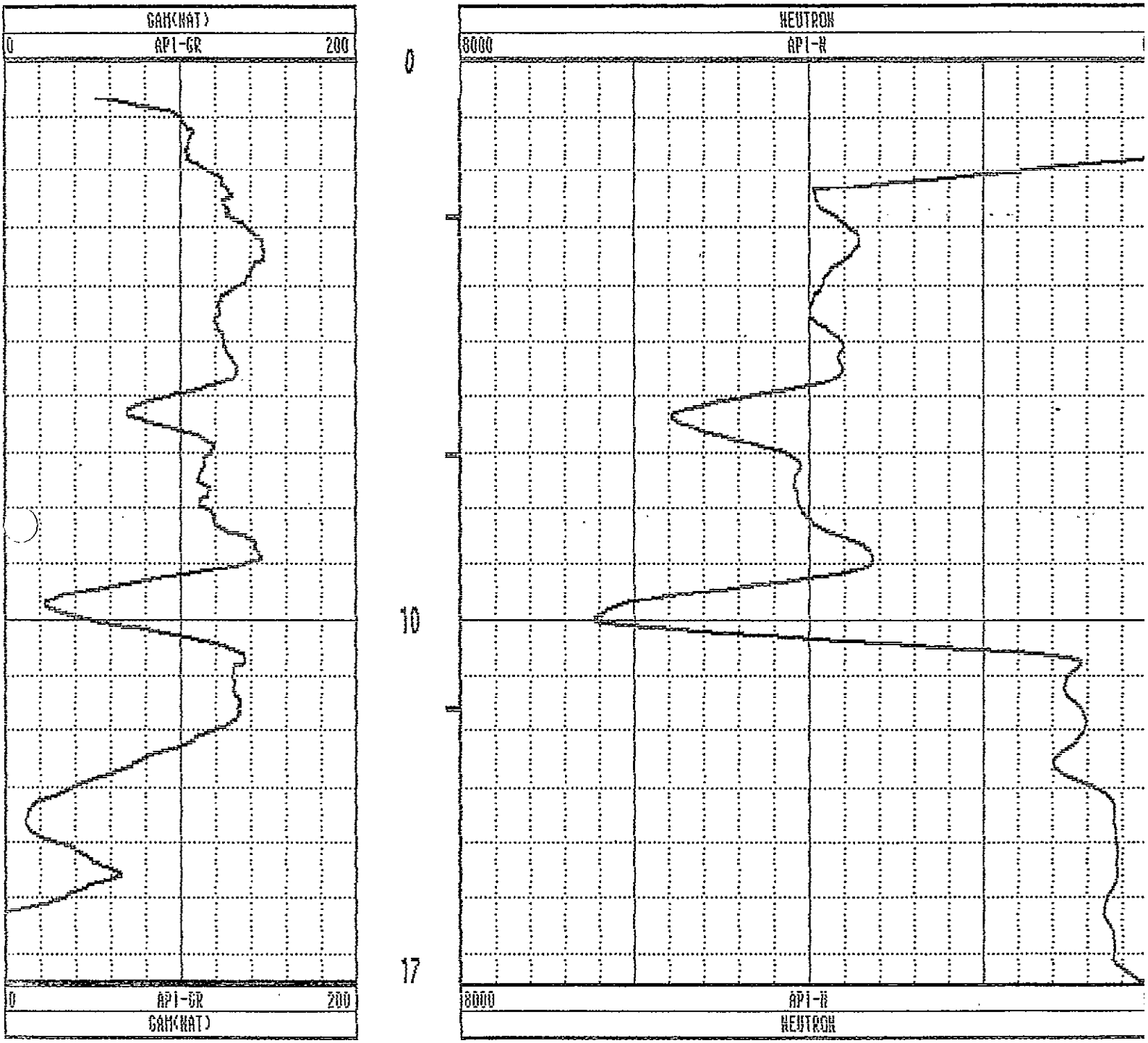
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

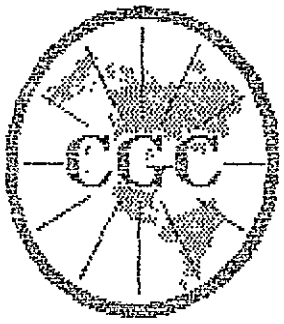
COMPANY	: GLOBALTEX				
WELL	: WRH-94007				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 16.7	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 16.54	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.72	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :
OPEN HOLE

OTHER SERVICES:
9030
9055


GAM(KAT)
0
API-GR
200
0
API-GR
200
GAM(KAT)
NEUTRON
8000
API-N
8000
API-N
NEUTRON
0
10
17

Picks



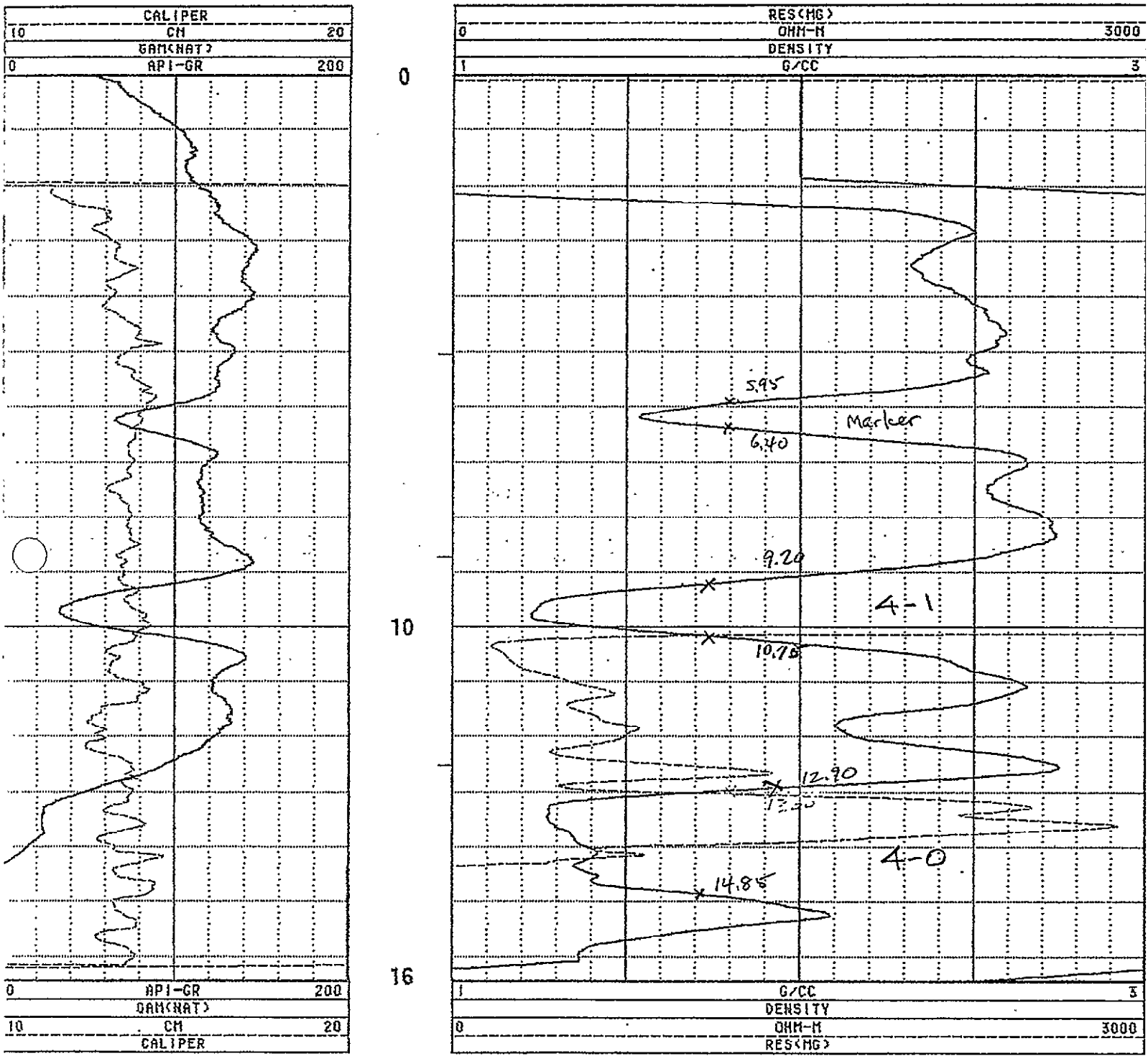
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94007				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 16.7	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 16.46	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.08	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055



WRH-94007 03/17/94 440

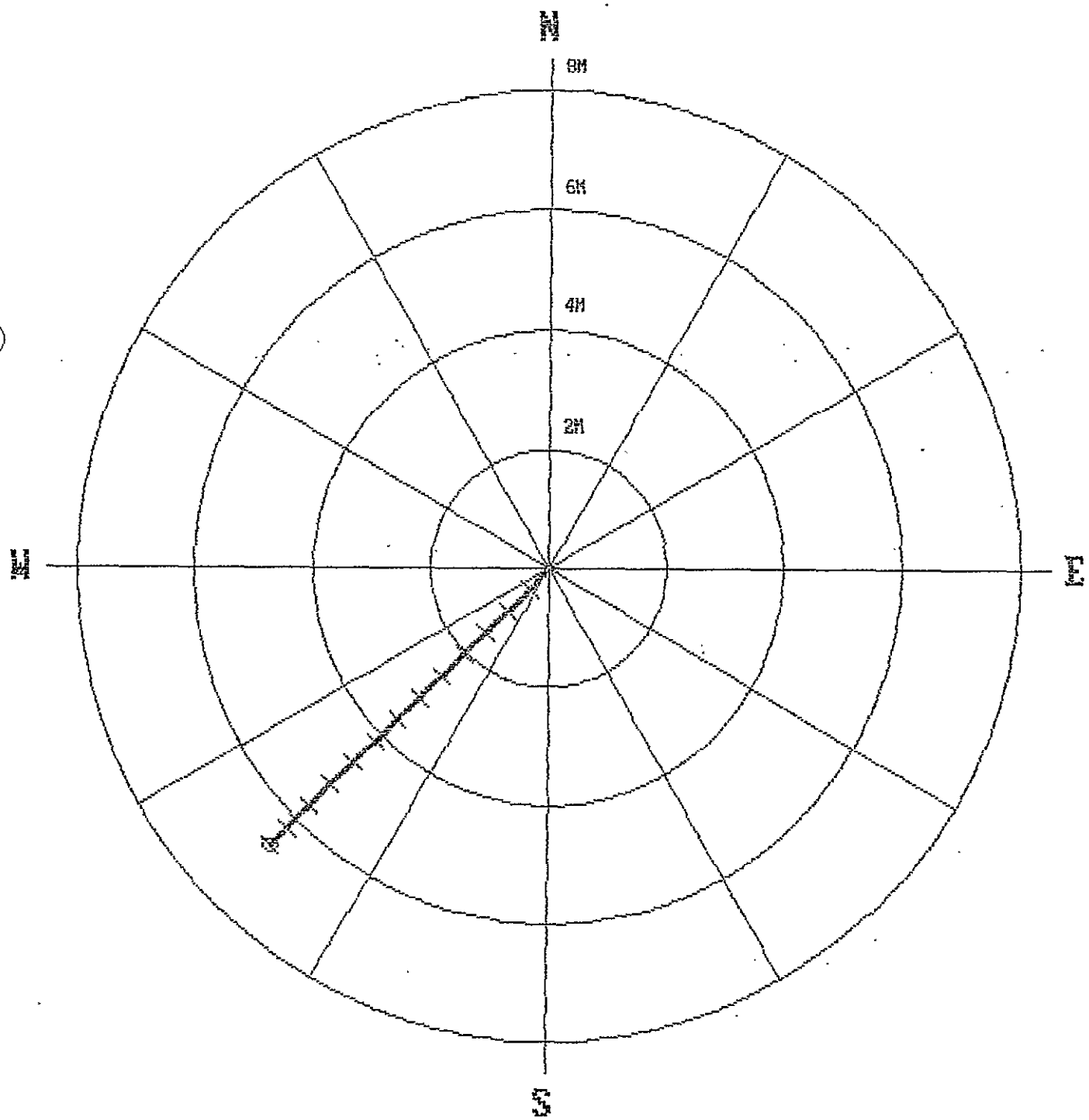
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94007
DATE OF LOG: 03/17/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 1 M/CM
TRUE DEPTH: 14.80 M
AZIMUTH: 225.1
DISTANCE: 6.6 M
+ = 1 M INCR
○ = BOTTOM OF HOLE



* * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94007
DATE OF LOG : 03/17/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 4

ABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.0	2.04	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.67	-0.97	-0.93	1.3	223.8	27.7	225.3
10.0	9.10	-2.59	-2.59	3.7	225.0	27.4	225.0
15.0	13.54	-4.20	-4.24	6.0	225.2	27.5	209.7
16.4	14.80	-4.67	-4.69	6.6	225.1	27.3	224.7
20.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.8

WRH 94008

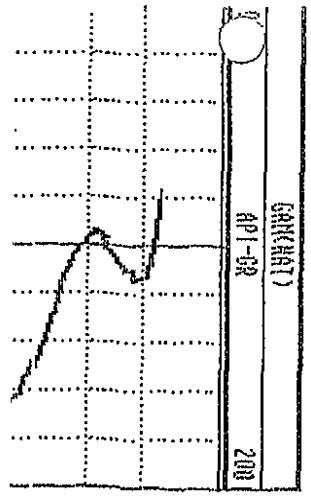
Century GEOPHYSICAL CORP.

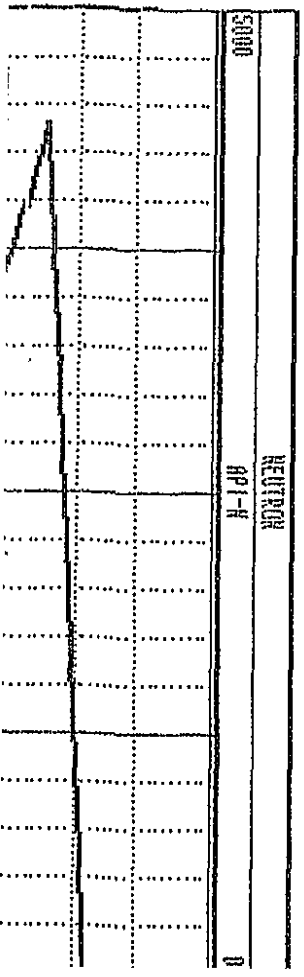
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: MRH-94008				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 28	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 25.65	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.82	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

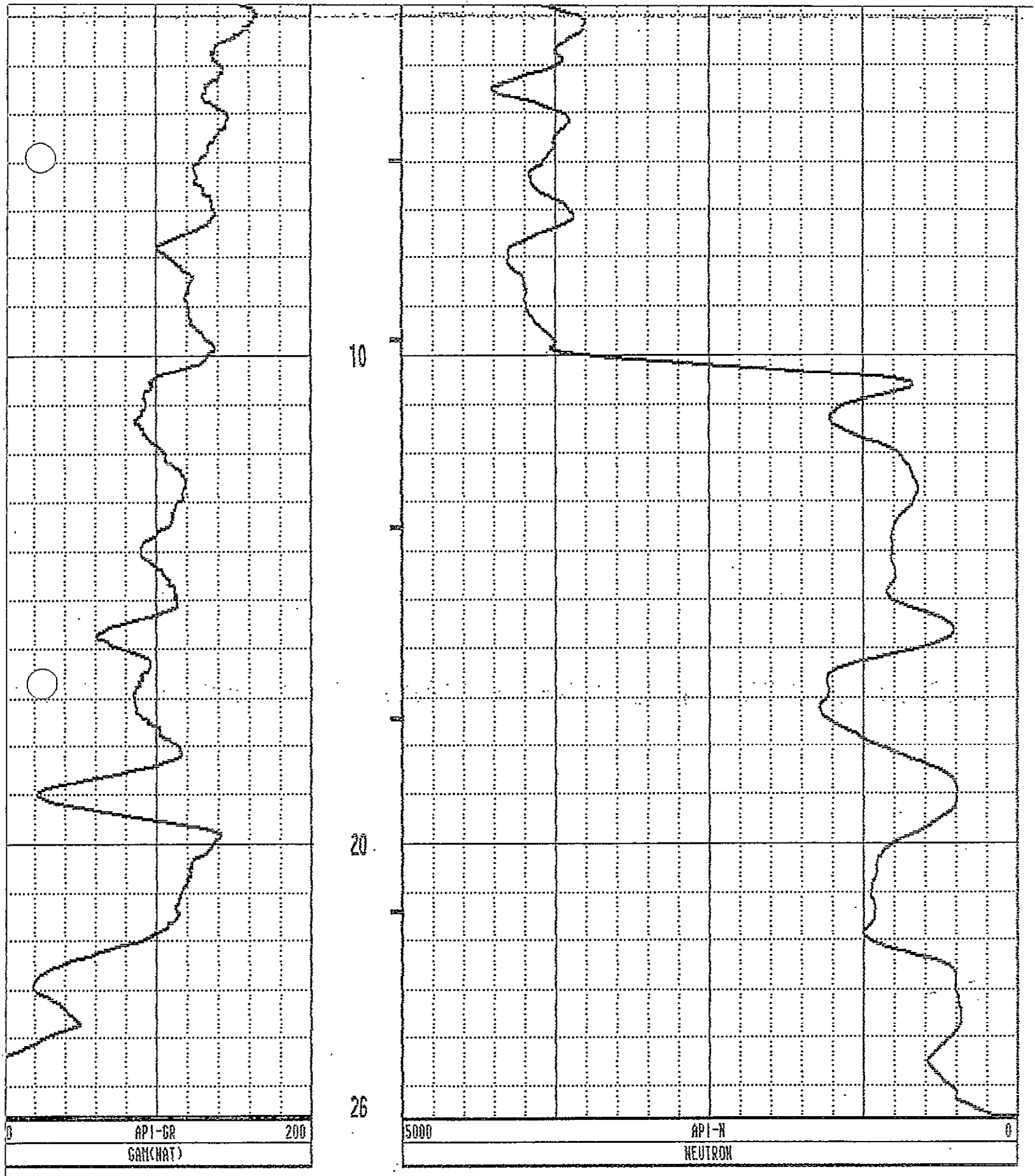
OTHER SERVICES:
9030
9055

OPEN HOLE

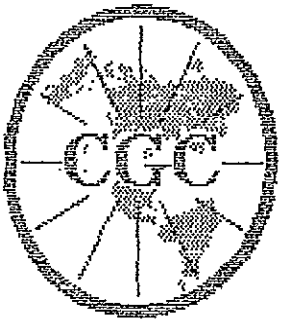




WRH 940008



WRH-94008 03/17/94 255



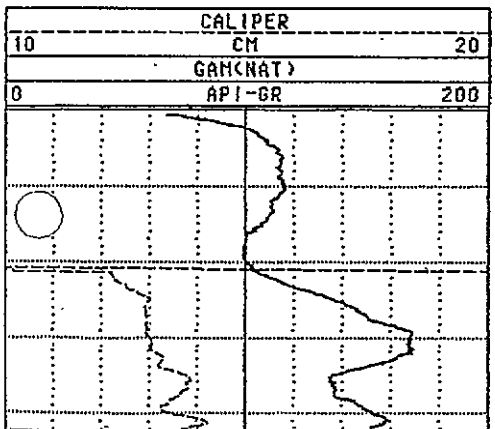
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

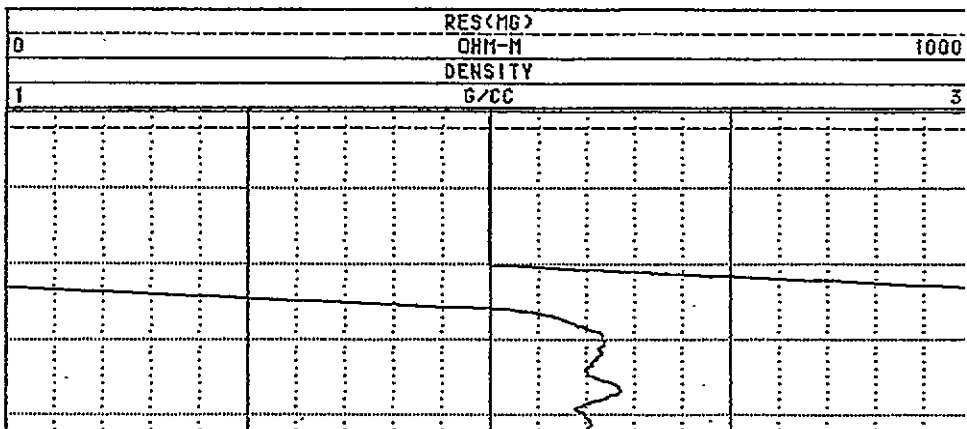
COMPANY	: GLOBALTEX				
WELL	: WRH-94008				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 28	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 25.57	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.10	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

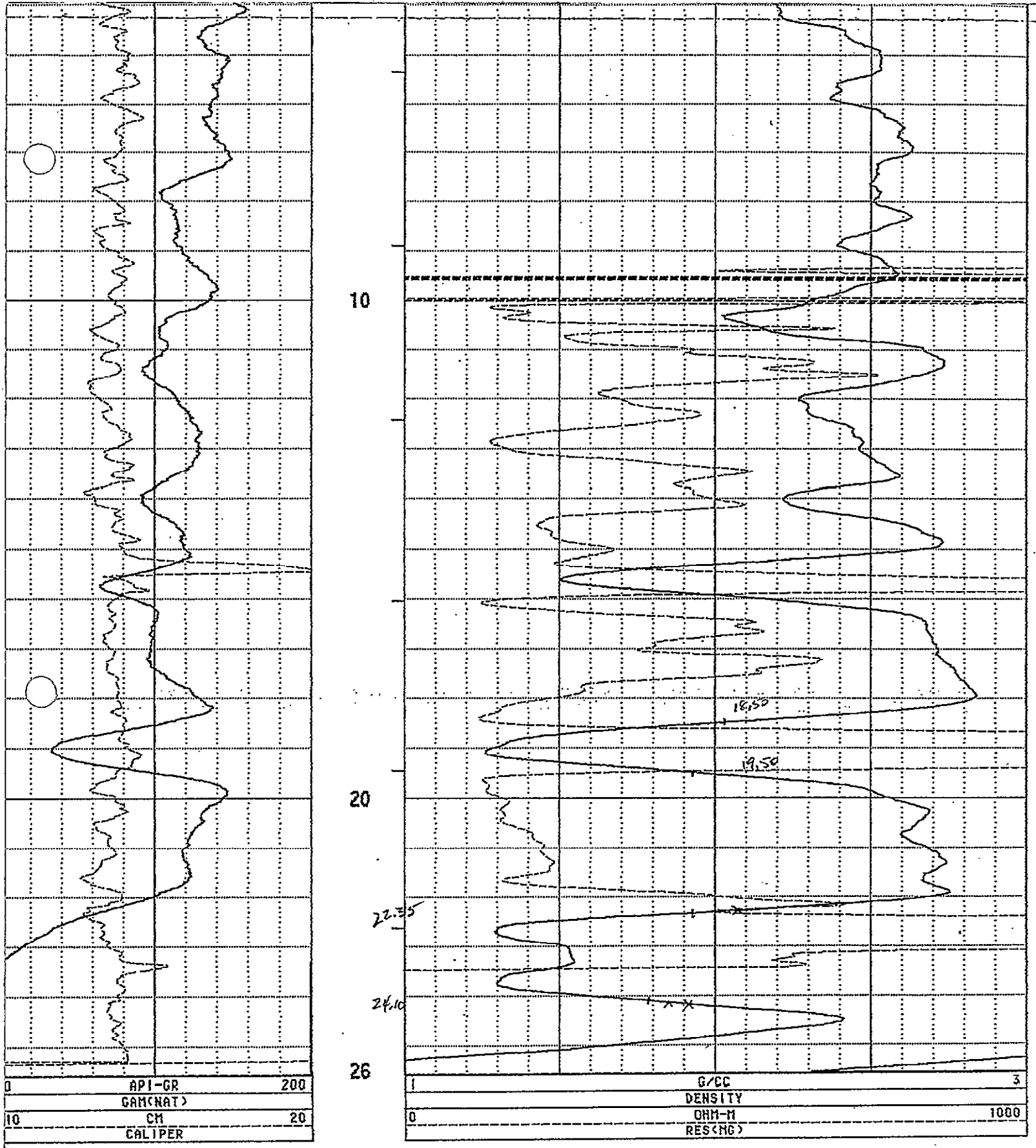
OPEN HOLE

OTHER SERVICES:
9030
9055


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200

0


RES(MG)
0
OHM-M
1000
DENSITY
1
G/CC
3



WRH-94008 03/17/94 440

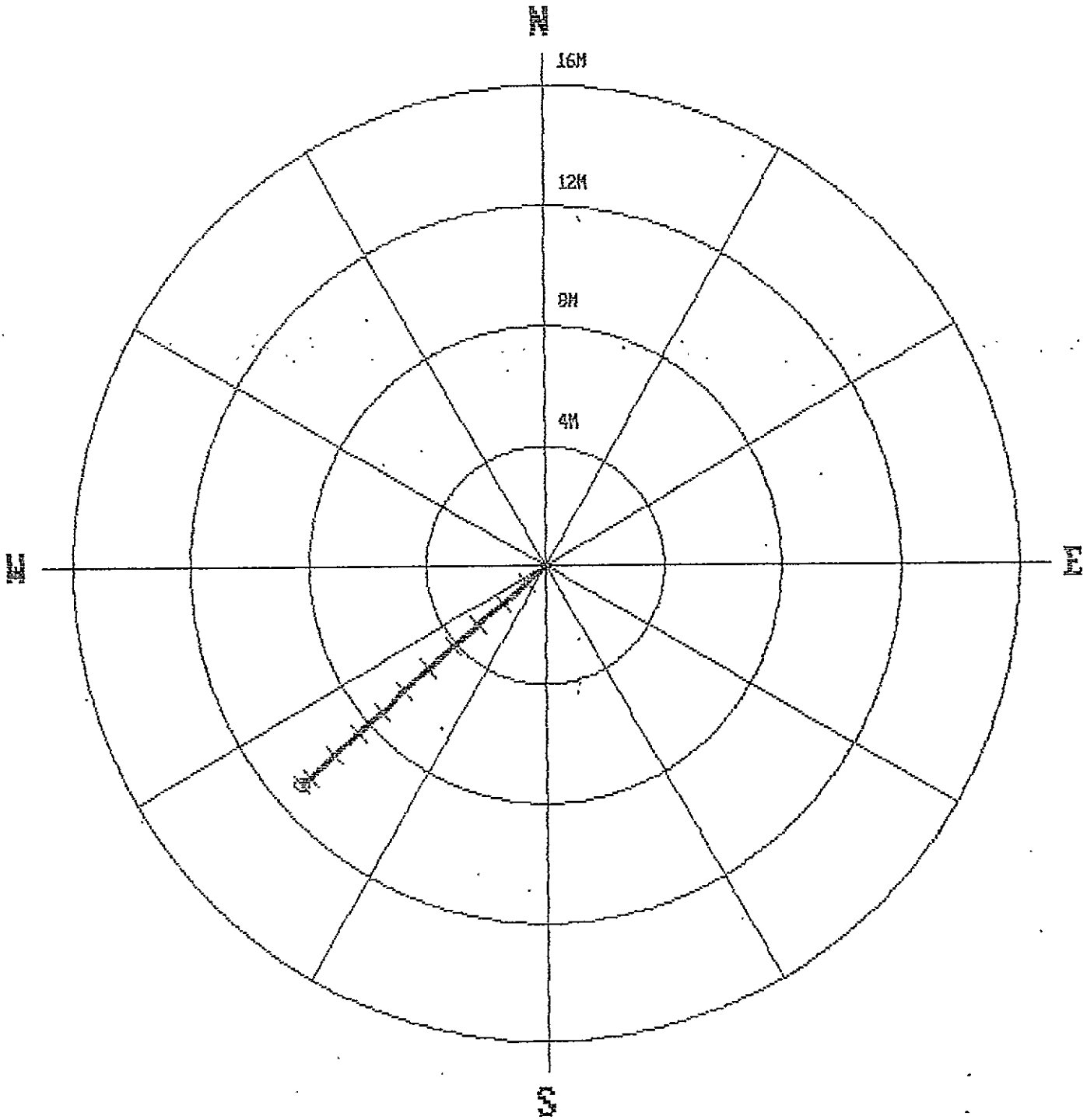
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94008
DATE OF LOG: 03/17/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 2 M/CM
TRUE DEPTH: 22.71 M
AZIMUTH: 228.6
DISTANCE: 11.6 M
+ = 2 M INCR
○ = BOTTOM OF HOLE



* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

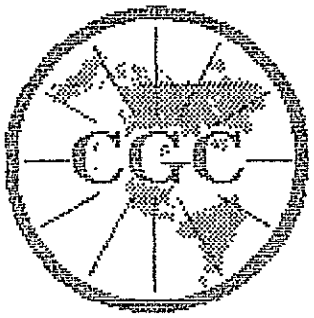
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94008
DATE OF LOG : 03/17/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.2	2.22	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.70	-0.83	-0.89	1.2	227.1	28.2	232.1
10.0	9.08	-2.37	-2.72	3.6	229.0	29.0	230.5
15.0	13.45	-3.95	-4.55	6.0	229.0	28.9	228.7
20.0	17.84	-5.51	-6.27	8.3	228.7	28.7	231.1
25.0	22.22	-7.11	-8.07	10.8	228.6	28.8	228.3
25.6	22.71	-7.29	-8.27	11.0	228.6	28.8	228.9
30.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.9

WRH 94010



Century GEOPHYSICAL CORP.

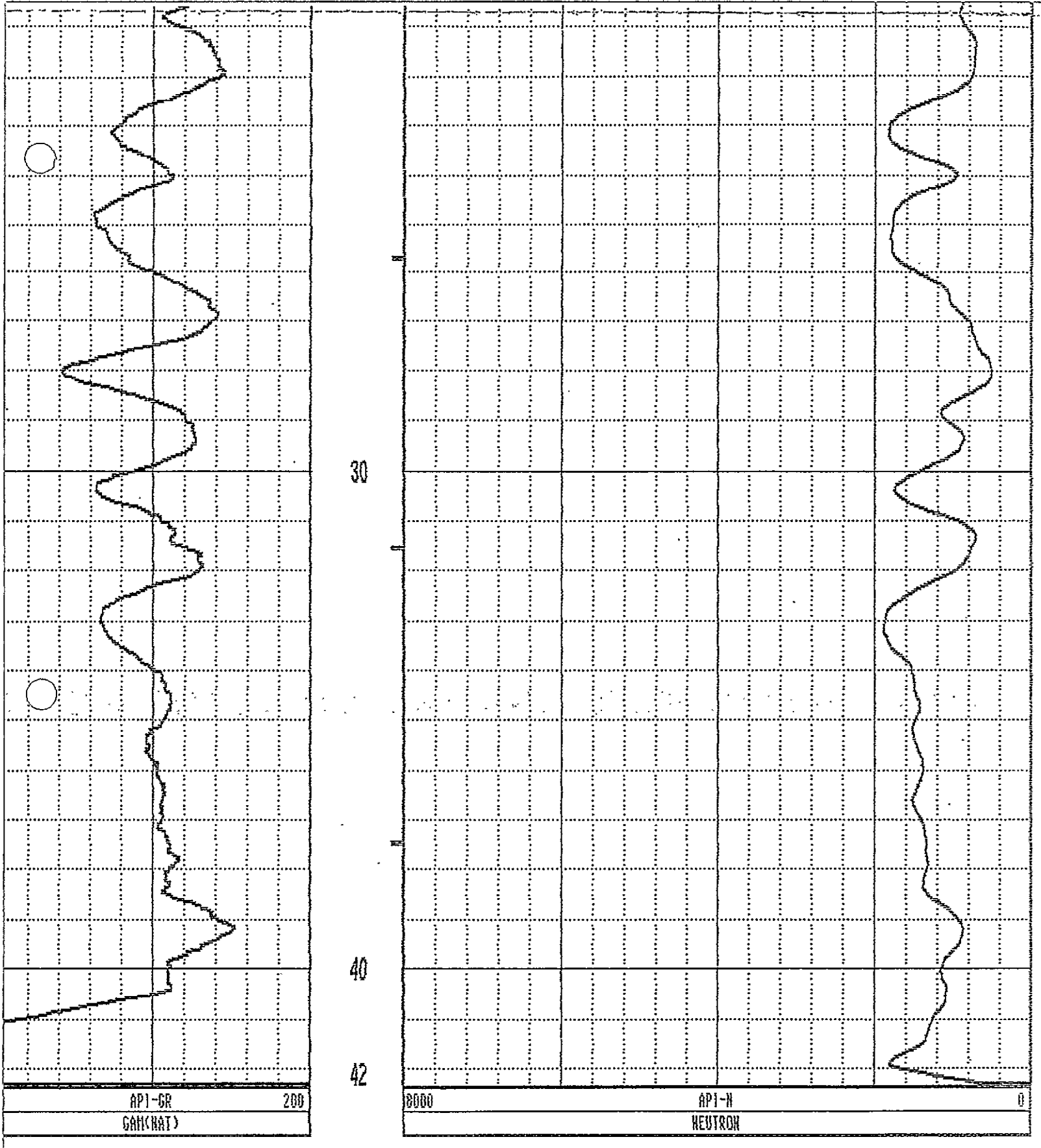
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94010				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 50	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 42.35	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.88	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

OTHER SERVICES:
9030
9055

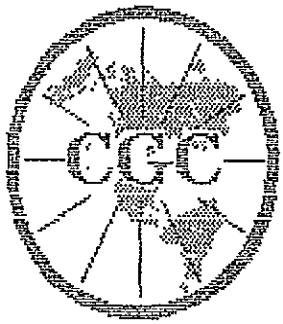
REMARKS :
OPEN HOLE

NEUTRON
API-N
60000
0
10
20
GAMMA RAY
API-GR
200
0



WRH-94010 03/17/94 255

PICKS



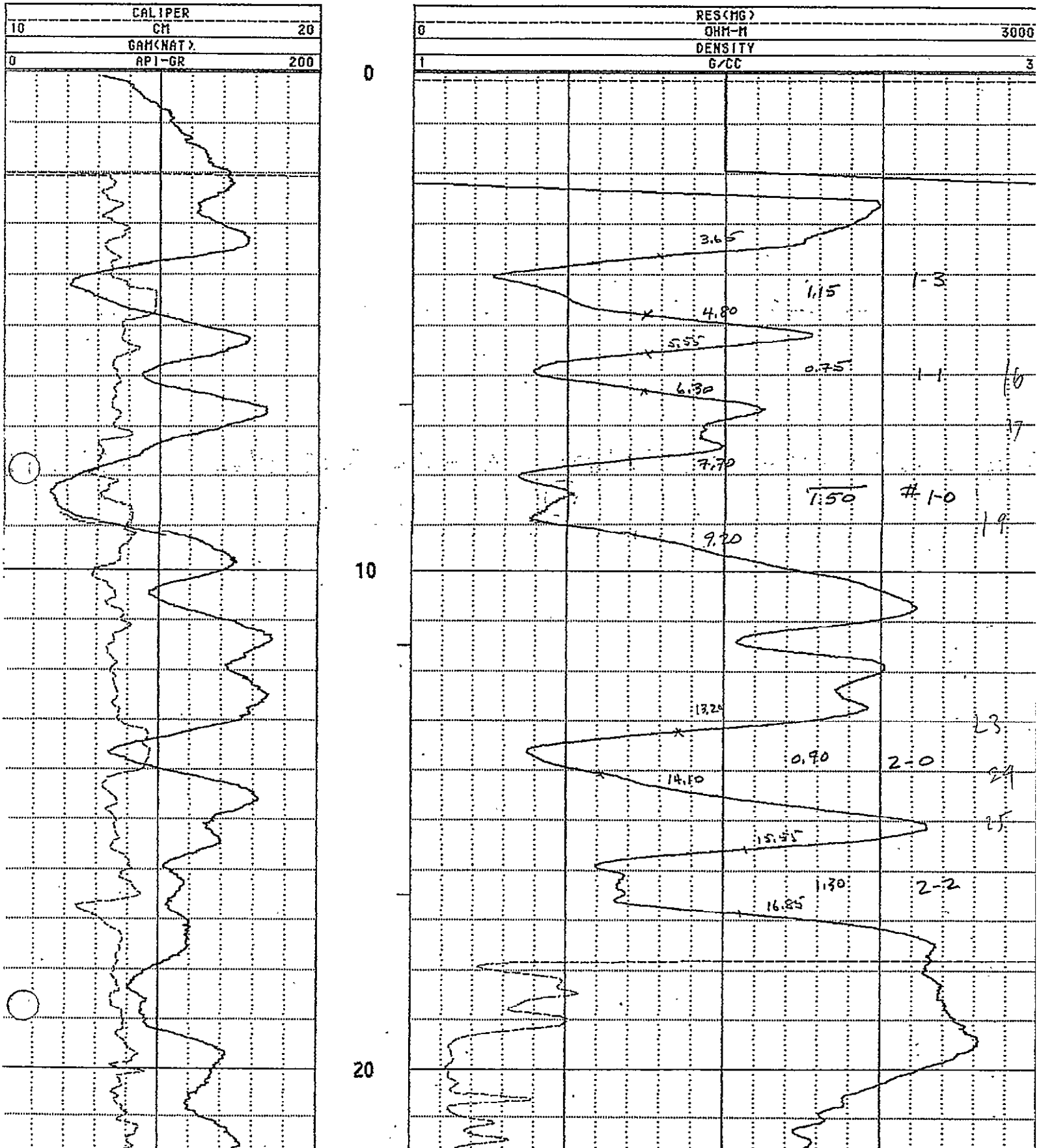
Century GEOPHYSICAL CORP.

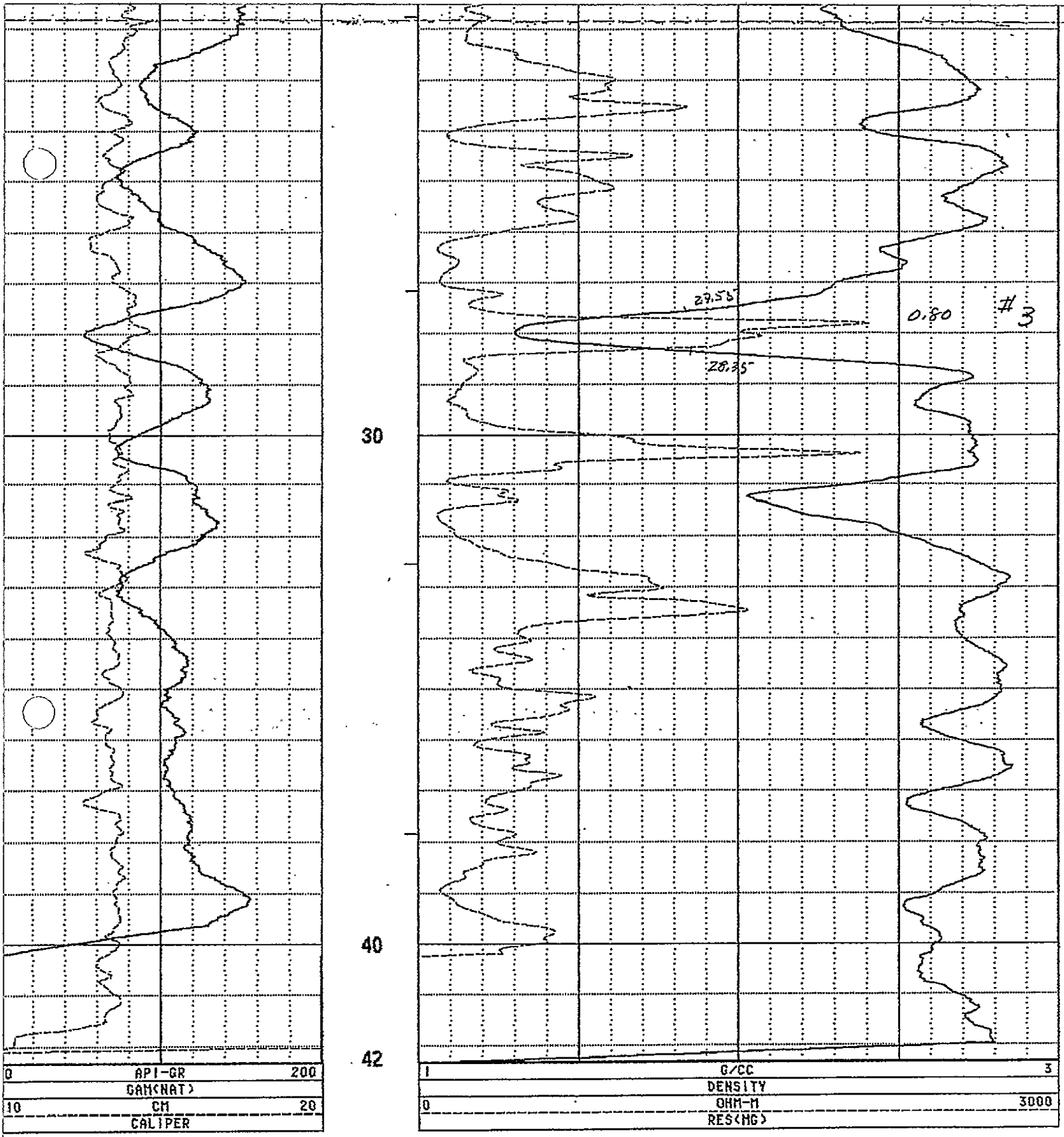
GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94010				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/17/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 50	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 42.33	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.12	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 6
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
3
0
10
20
3.65
1.15
1-3
4.80
5.55
0.75
1-1
6.30
7.70
1.50
#1-0
9.20
12.25
0.90
2-0
14.50
15.55
1.30
2-2
16.85



WRH-94010 03/17/94 440

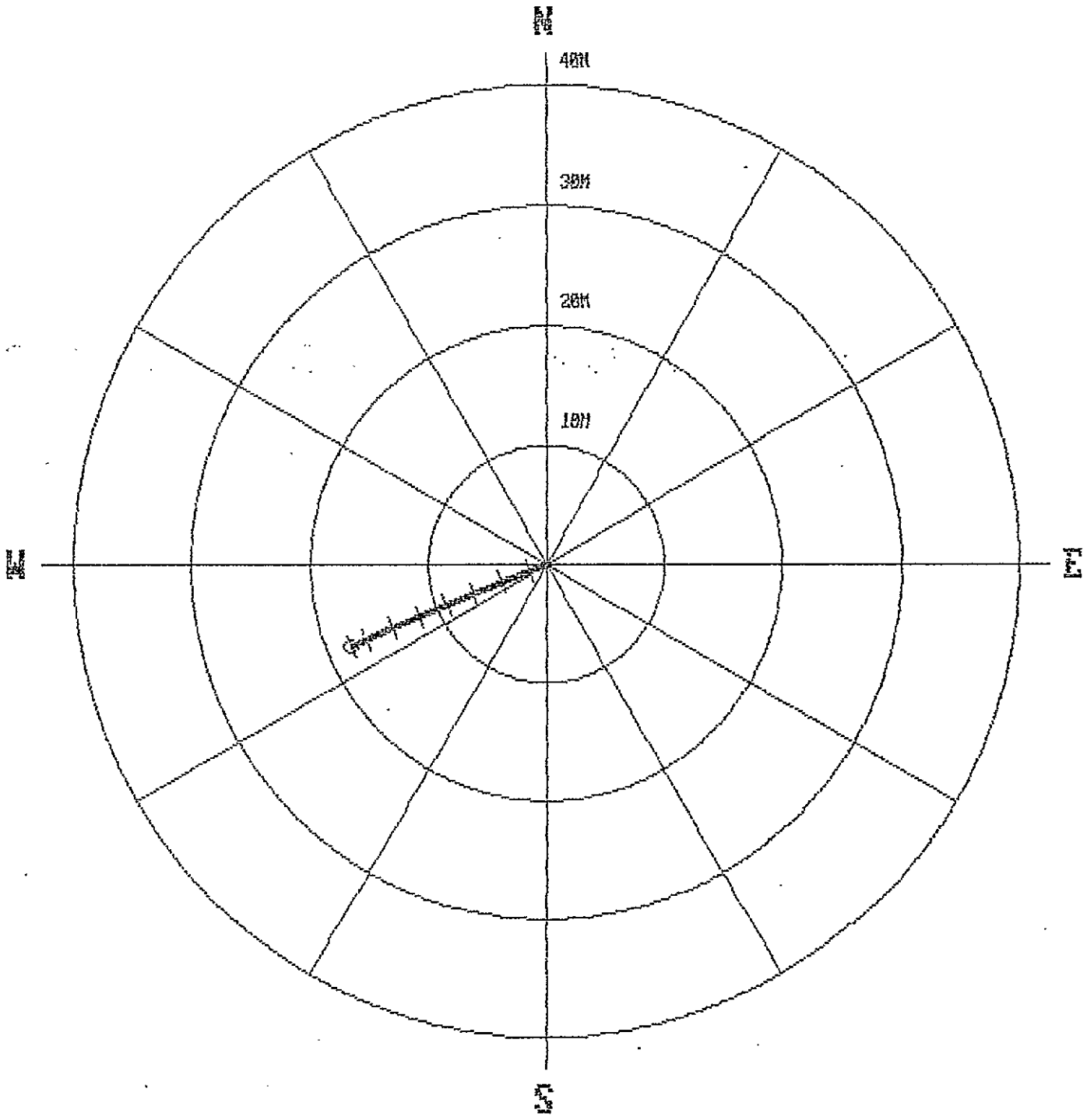
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94010
DATE OF LOG: 03/17/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 5 M/CM
TRUE DEPTH: 37.85 M
AZIMUTH: 247.3
DISTANCE: 17.9 M
+ = 5 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

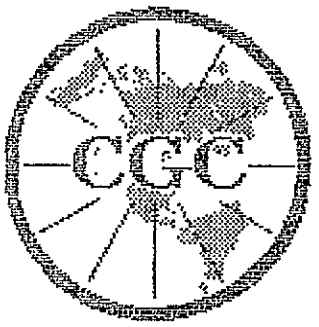
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94010
DATE OF LOG : 03/17/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 7

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.1	2.12	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.66	-0.50	-1.26	1.4	248.5	27.9	249.6
10.0	9.09	-1.32	-3.41	3.7	248.8	27.4	248.5
15.0	13.55	-2.17	-5.52	5.9	248.5	26.6	249.4
20.0	18.03	-2.99	-7.57	8.1	248.4	26.1	249.3
25.0	22.52	-3.86	-9.60	10.3	248.1	26.1	248.5
30.0	27.00	-4.72	-11.63	12.6	247.9	26.2	247.5
35.0	31.48	-5.60	-13.67	14.8	247.7	26.3	246.7
40.0	35.97	-6.51	-15.68	17.0	247.5	26.1	246.0
42.1	37.85	-6.90	-16.53	17.9	247.3	26.5	246.2
45.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.10

WRH 94011

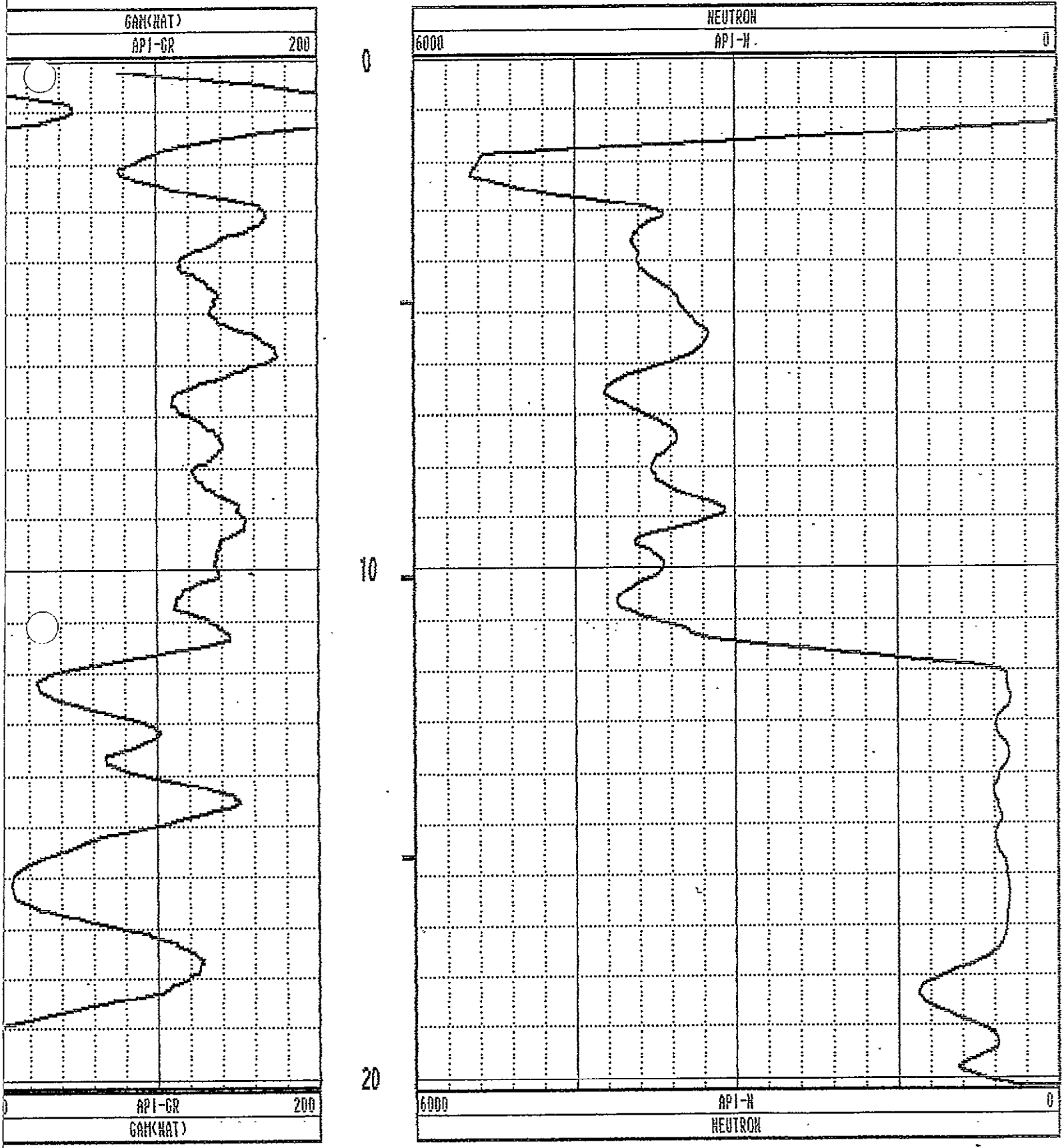


Century GEOPHYSICAL CORP.

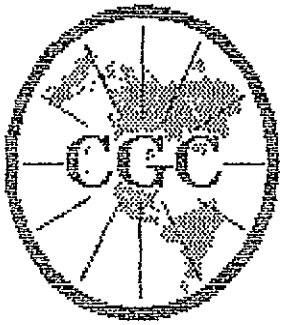
GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94011			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 20.22	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.24	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 5
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE



WRH-94011 03/18/94 255



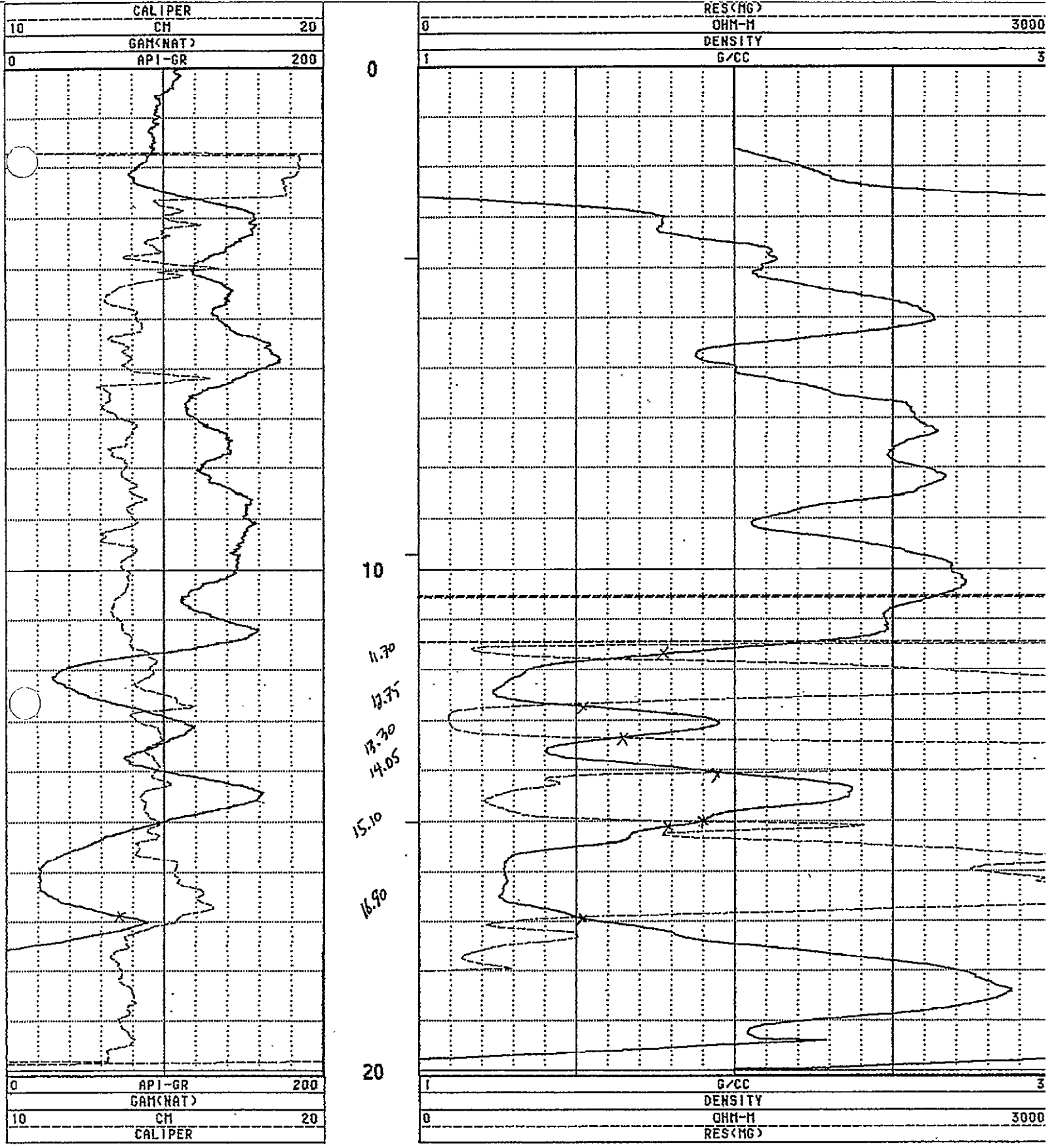
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94011				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 20.12	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.30	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 6
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055



WRH-94011 03/18/94 440

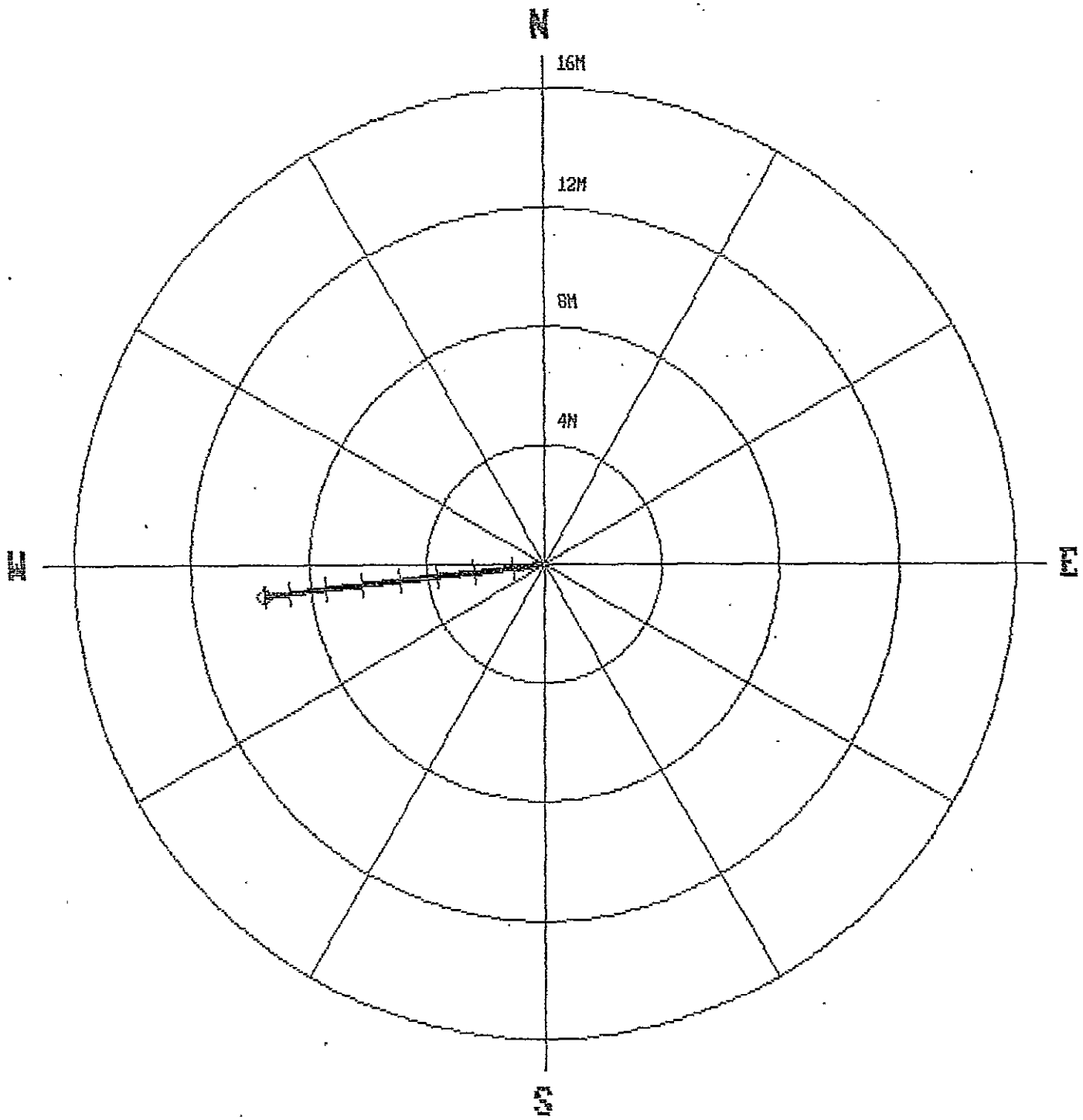
PLAN VIEW

COMPU-LOG DEVIATION

ENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94011
DATE OF LOG: 03/18/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 2 M/CM
TRUE DEPTH: 17.35 M
AZIMUTH: 263.7
DISTANCE: 9.5 M
+ = 2 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

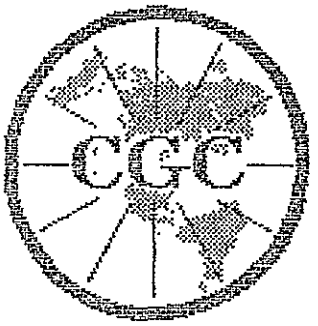
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94011
DATE OF LOG : 03/18/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 1

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.3	2.34	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.54	-0.18	-1.42	1.4	262.8	33.7	264.4
10.0	8.74	-0.44	-4.13	4.2	263.9	32.8	263.4
15.0	12.96	-0.73	-6.79	6.8	263.8	32.2	265.1
20.0	17.22	-1.04	-9.40	9.5	263.7	31.3	263.6
20.2	17.35	-1.05	-9.48	9.5	263.7	31.3	262.1
25.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.11

WRH 94012



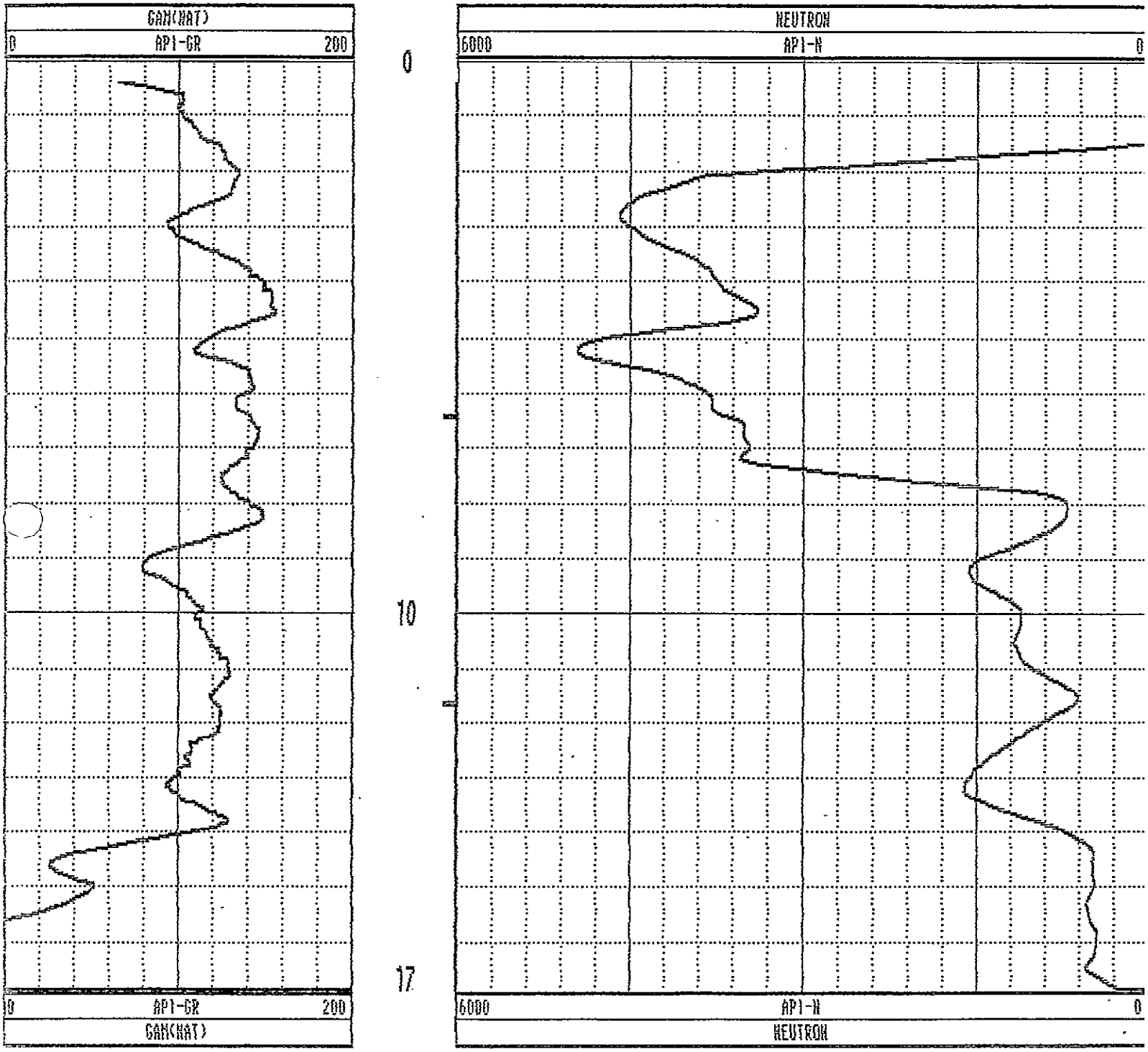
Century GEOPHYSICAL CORP.

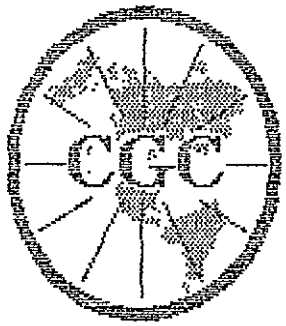
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94012				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 16.90	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.44	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055


GAM(NAT)
0
API-GR
200
0
10
17
0
API-GR
200
GAM(NAT)
NEUTRON
6000
API-N
0
6000
API-N
0
NEUTRON

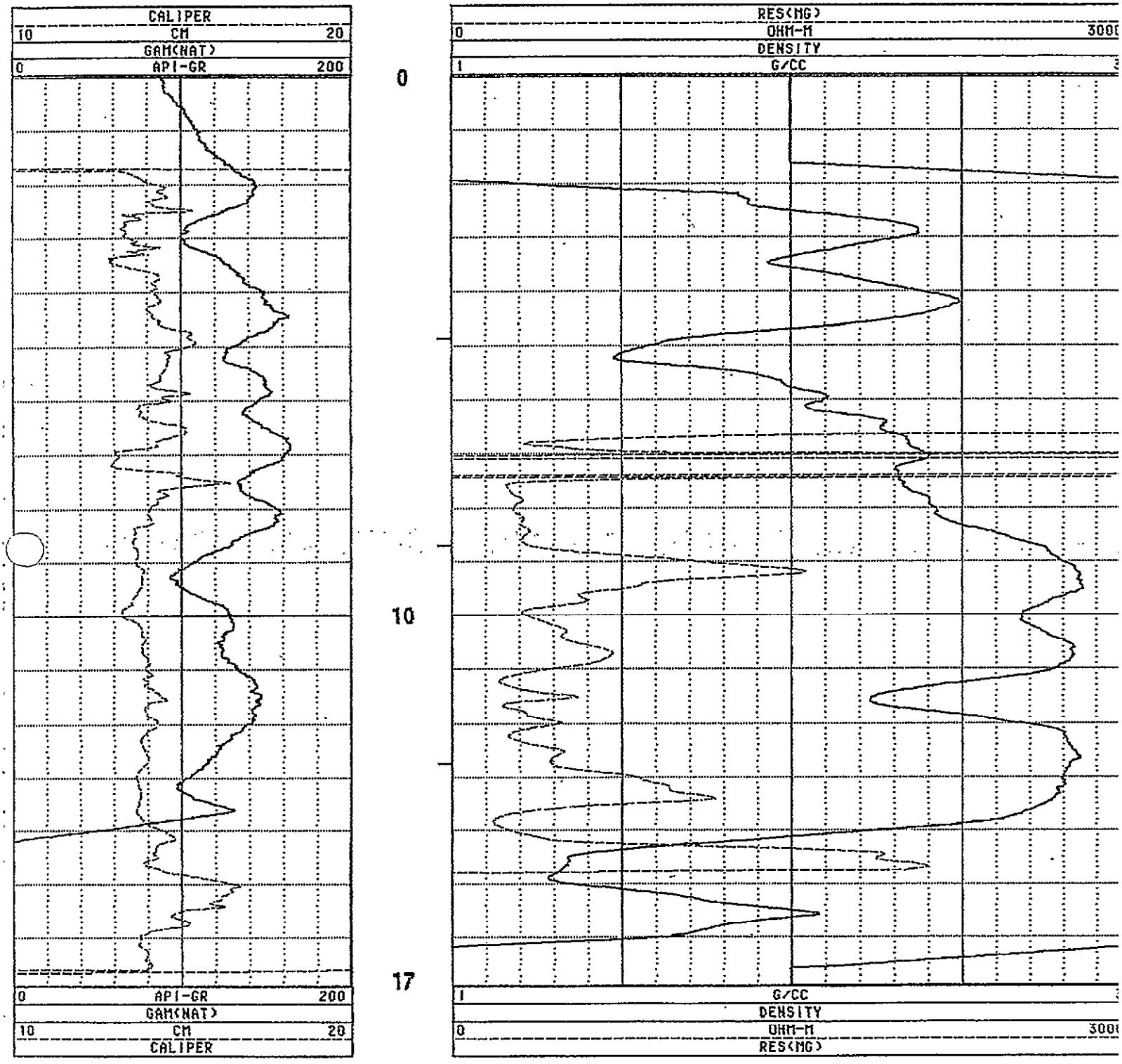


Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94012			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 16.90	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: -0.34	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE



WRH-94012 03/18/94 440

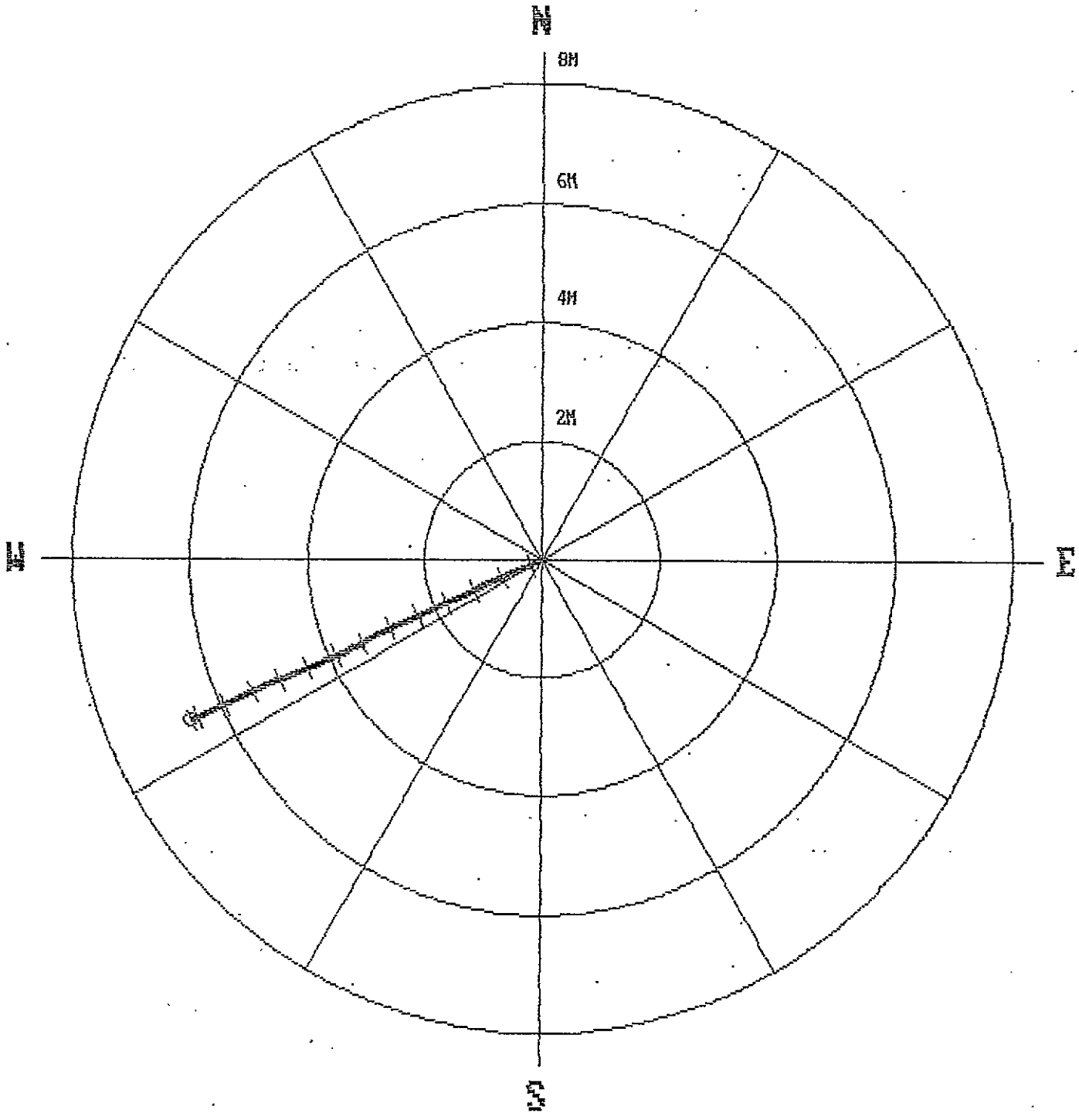
PLAN VIEW

COMPU-LOG DEVIATION

IENT: GLOBALIEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94012
DATE OF LOG: 03/18/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 1 M/CM
TRUE DEPTH: 15.26 M
AZIMUTH: 245.3
DISTANCE: 6.5 M
+ = 1 M INCR
○ = BOTTOM OF HOLE



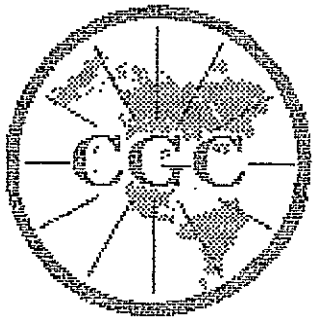
* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

CLIENT	: GLOBALTEX	HOLE ID.	: WRH-94012
FIELD OFFICE	: CALGARY	DATE OF LOG	: 03/18/94
DATA FROM	:	PROBE	: 9055A , 255
MAG. DECL.	: 24.500	DEPTH UNITS	: METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.6	2.60	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.72	-0.45	-1.01	1.1	246.1	27.9	242.9
10.0	9.14	-1.46	-3.10	3.4	244.8	28.3	254.5
15.0	13.58	-2.37	-5.19	5.7	245.4	26.7	243.4
16.9	15.26	-2.73	-5.94	6.5	245.3	26.7	244.1
20.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.12

WRH 94013



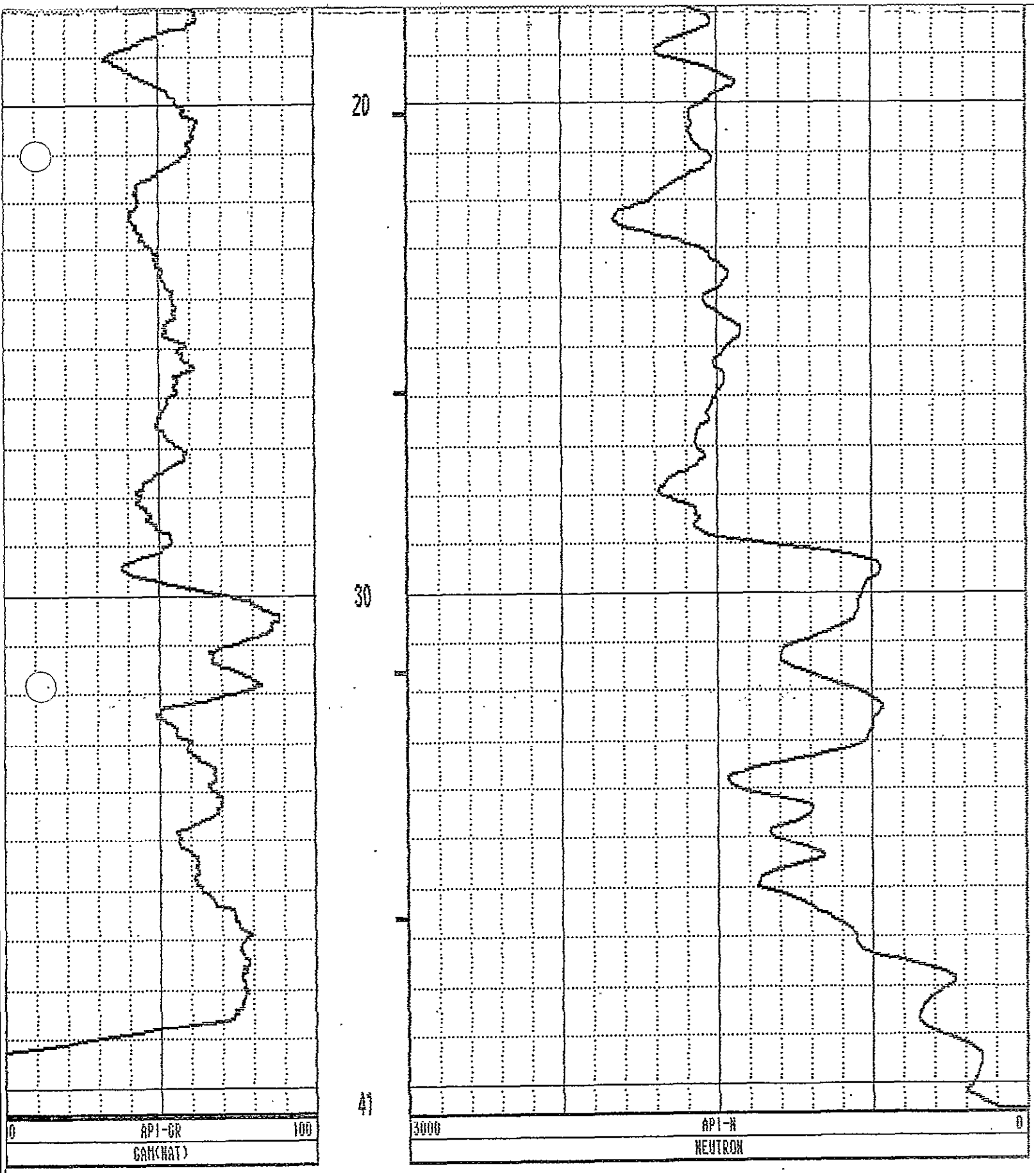
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

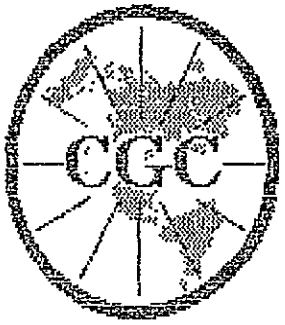
COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94013			9030	
LOCATION/FIELD	: MILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 42	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 40.56	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -1.31	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 0
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

THROUGH RODS

GAM(NAT)
0
API-GR
100
NEUTRON
3000
API-N
0
10



WRH-94013 03/18/94 255



Century GEOPHYSICAL CORP.

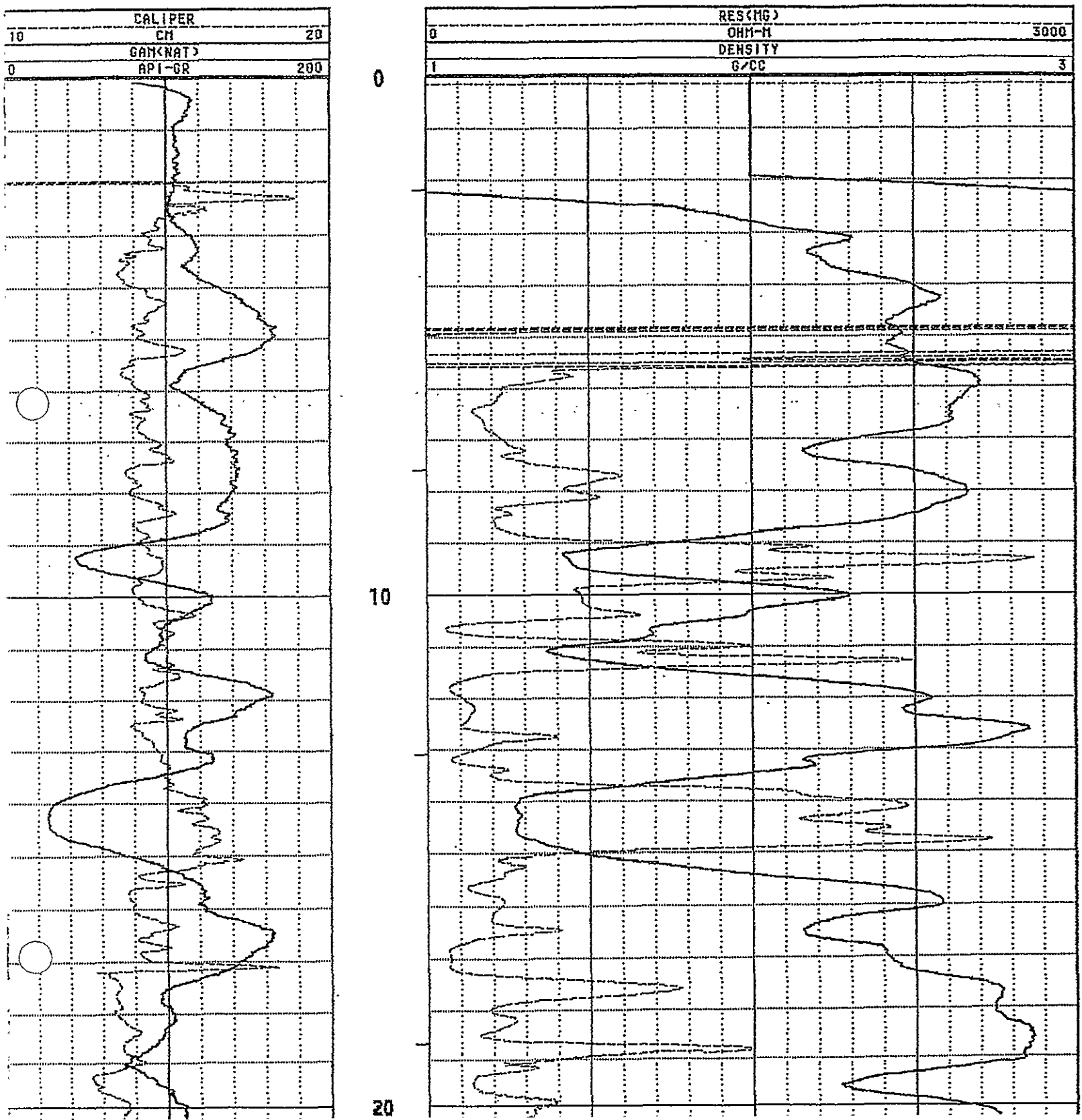
GAMMA-RES-DENSITY

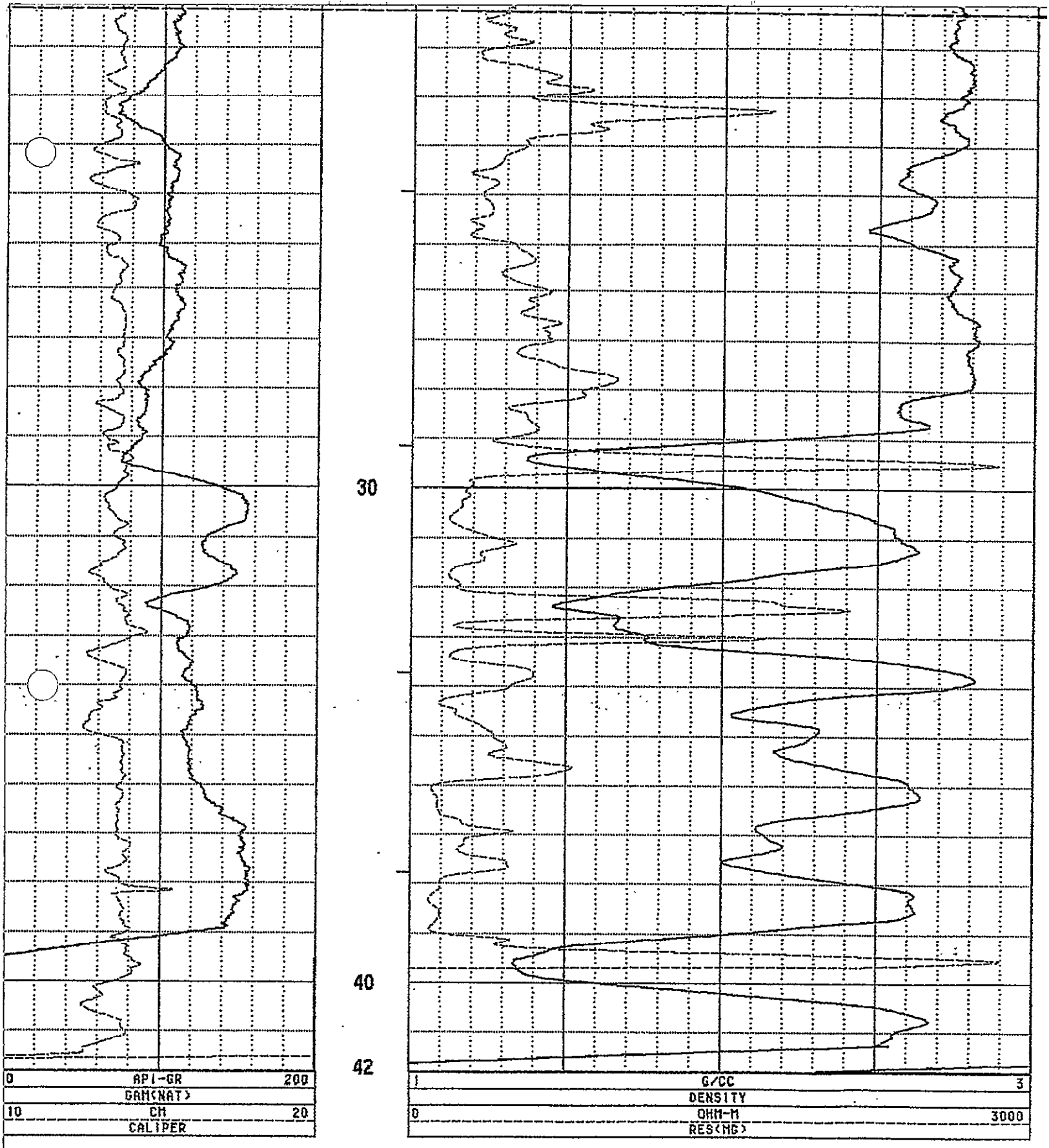
COMPANY	: GLOBALTEX				
WELL	: WRH-94013				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 42	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 41.81	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.10	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

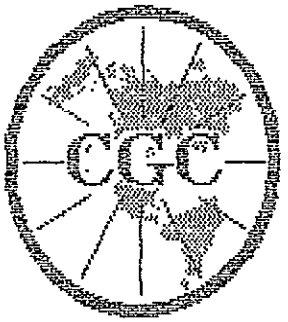
OTHER SERVICES:
9030
9055

WRH 94012


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
RES(HG)
0
OHM-M
3000
DENSITY
1
G/CC
3
0
10
20



WRH-94013 03/18/94 440



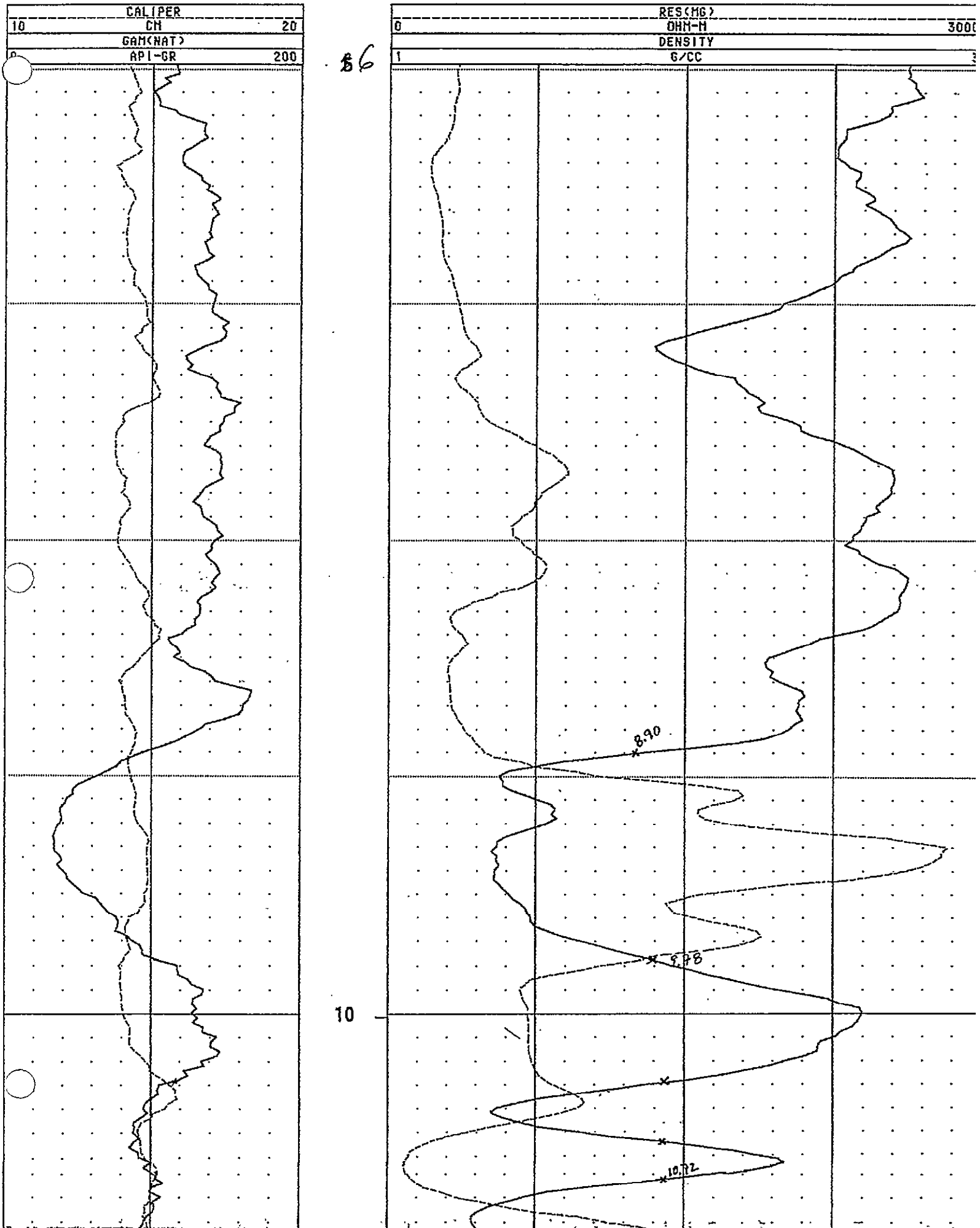
Century GEOPHYSICAL CORP.

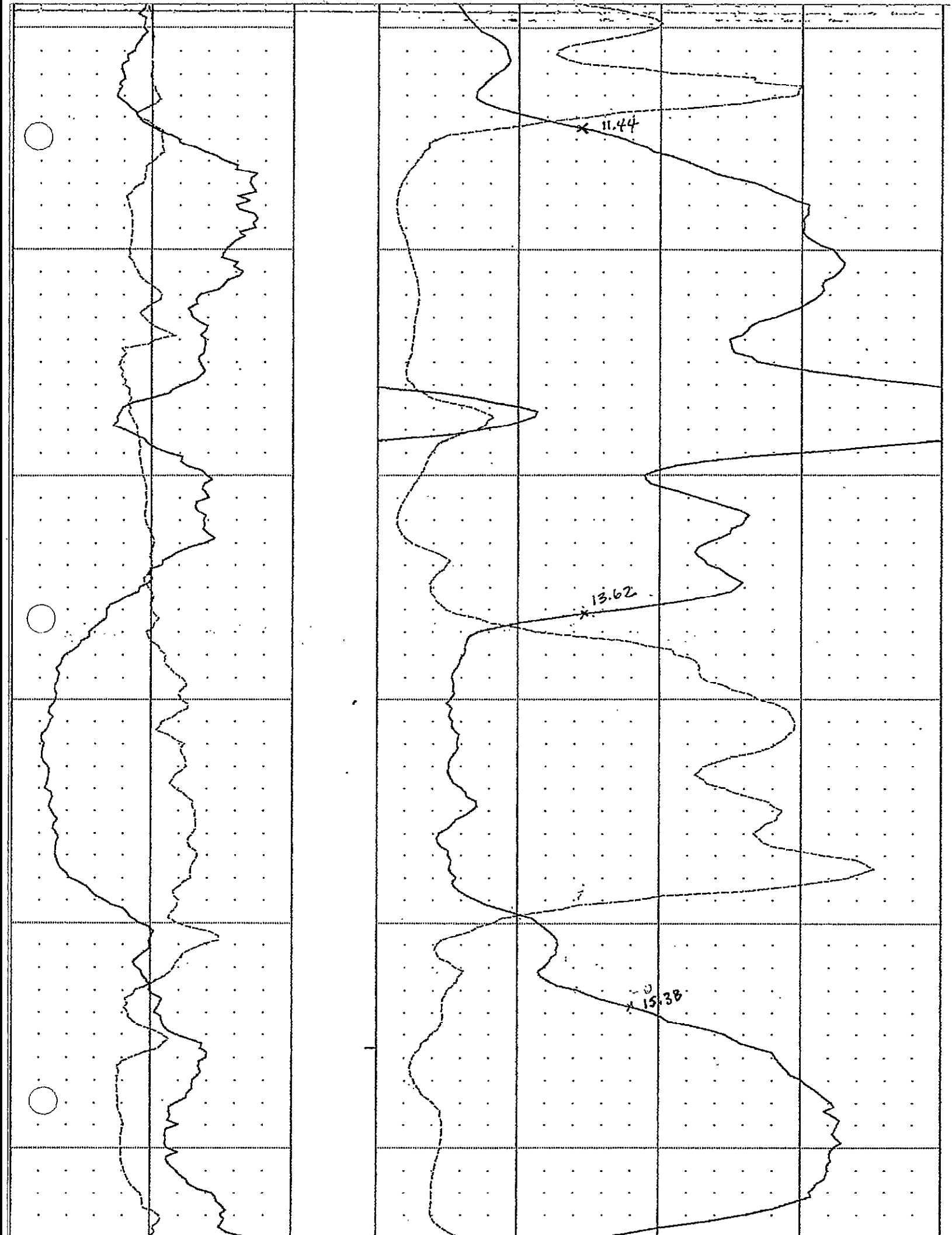
GAMMA-RES-DENSITY

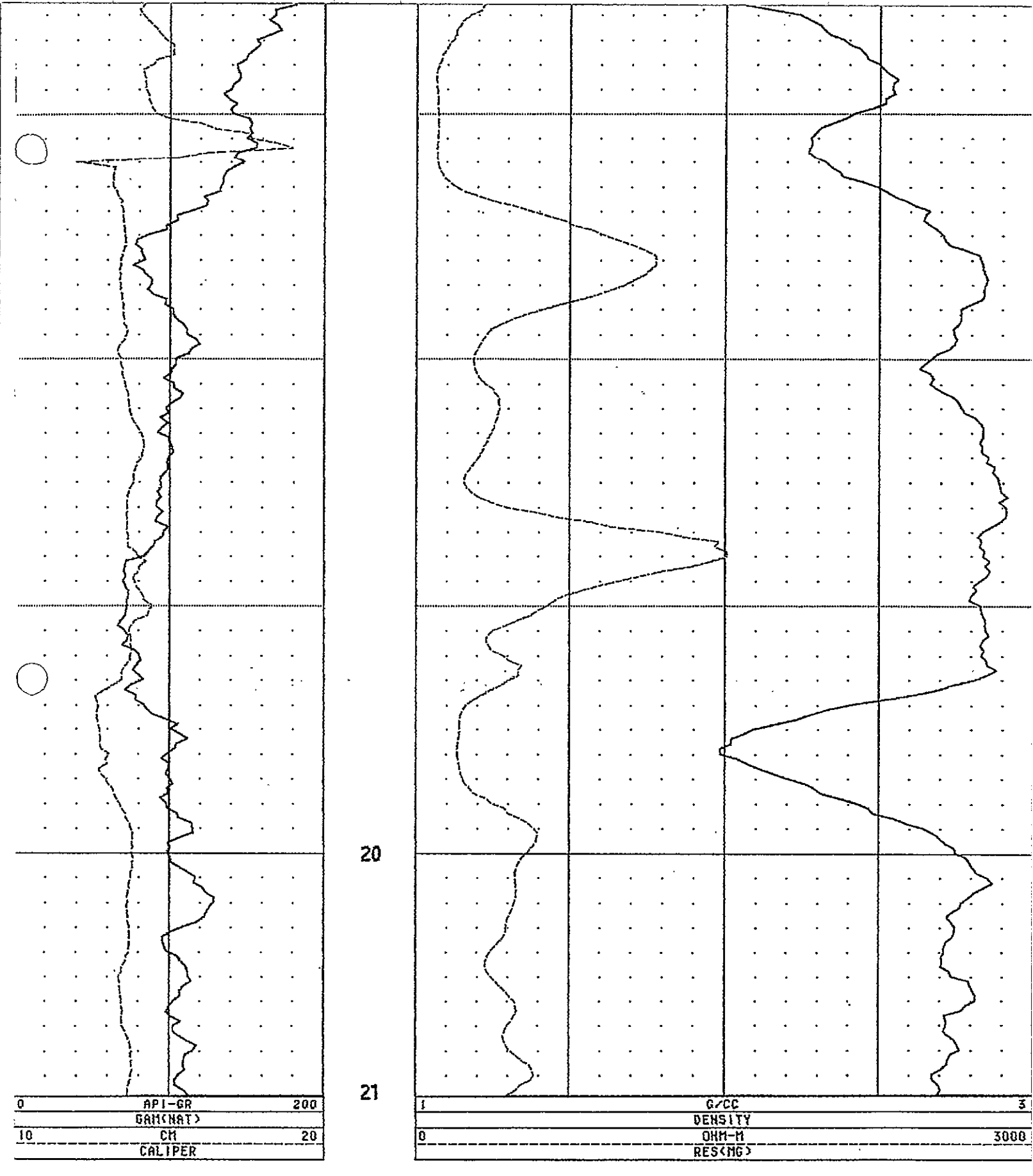
COMPANY	: GLOBALTEX				
WELL	: WRH-94013				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/18/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 42	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 41.81	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.10	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 0
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

OTHER SERVICES:
9030
9055

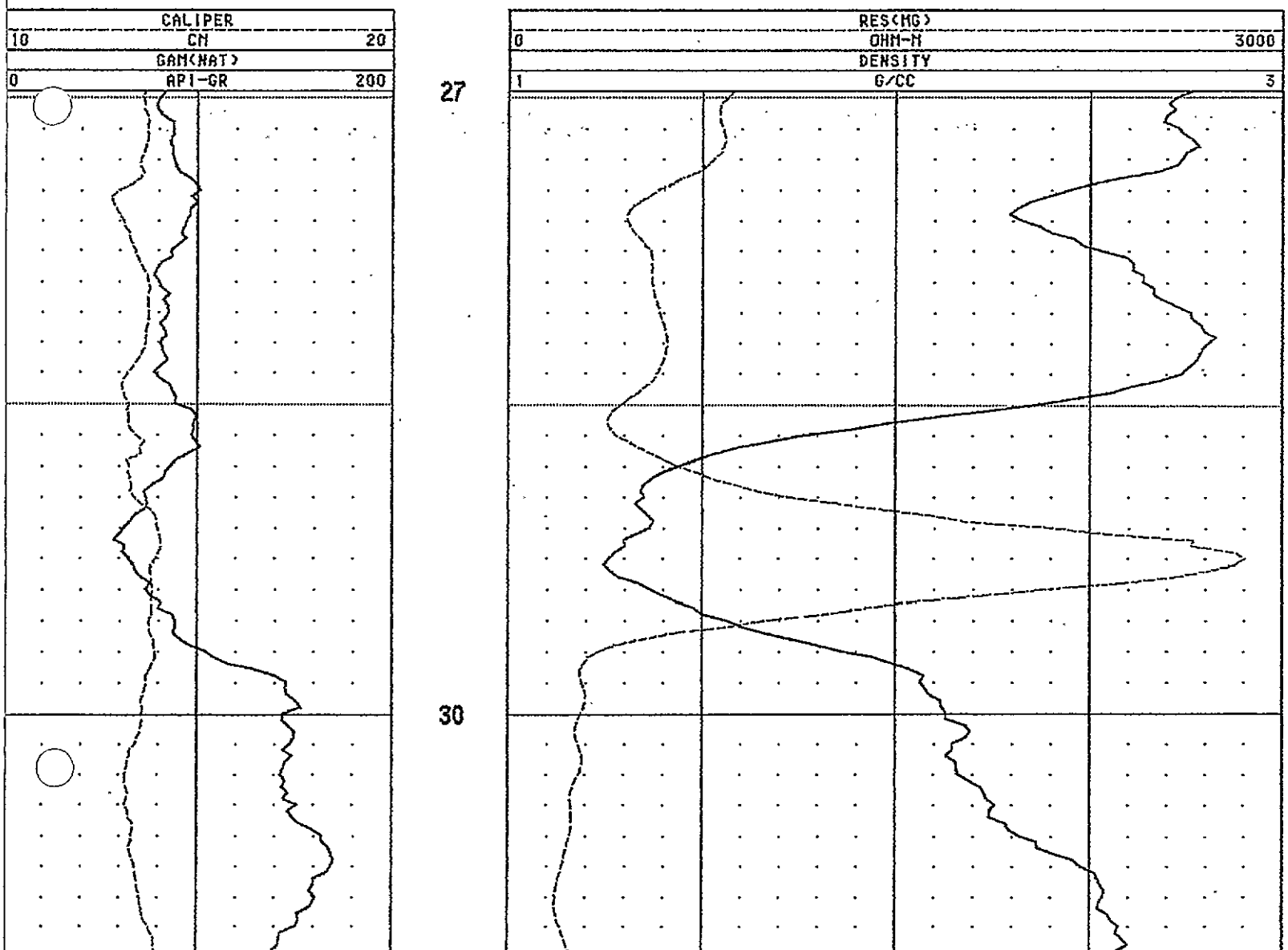
REMARKS :
OPEN HOLE
*** EXPANDED LOG ***

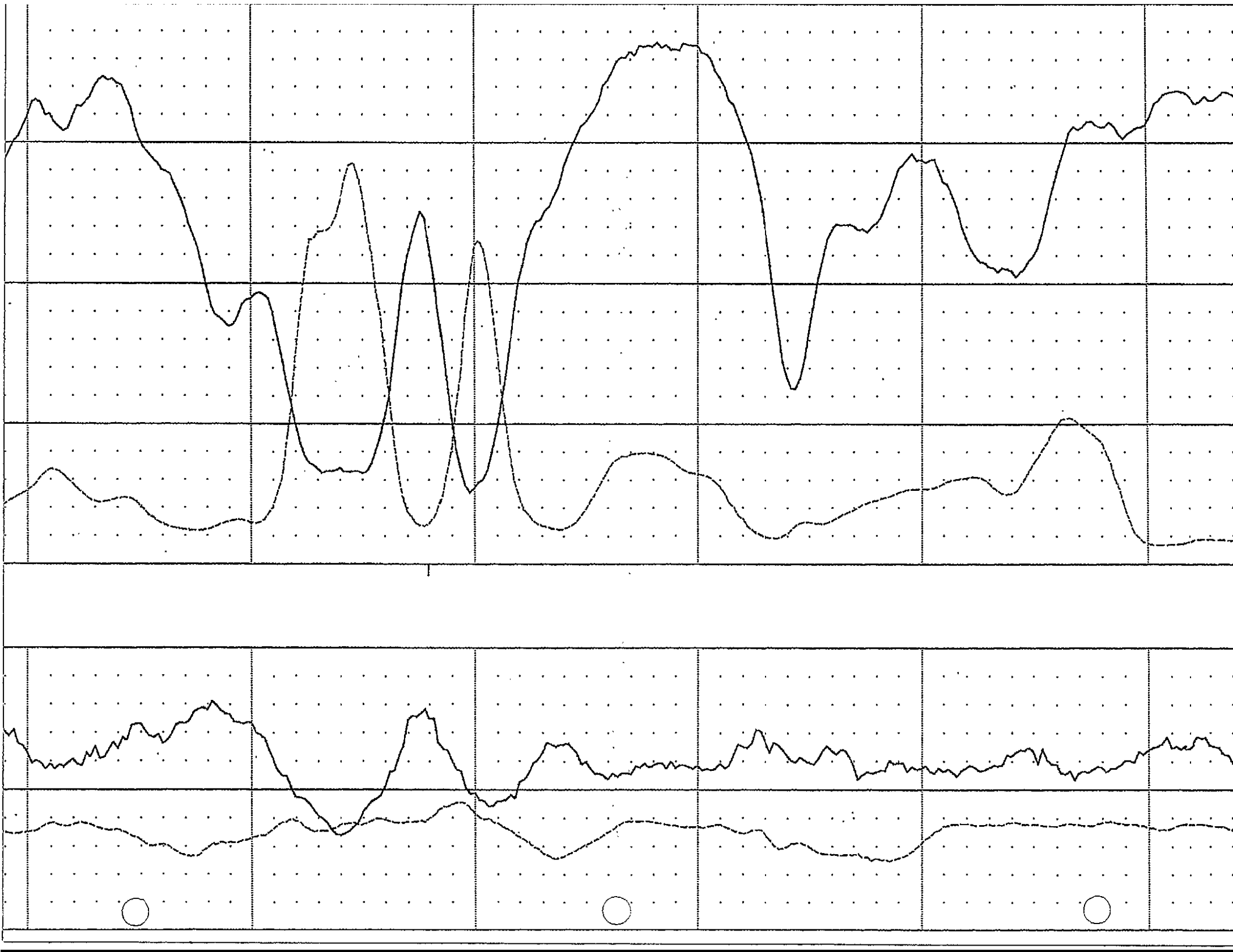

CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
8.90
8.98
10.72
10

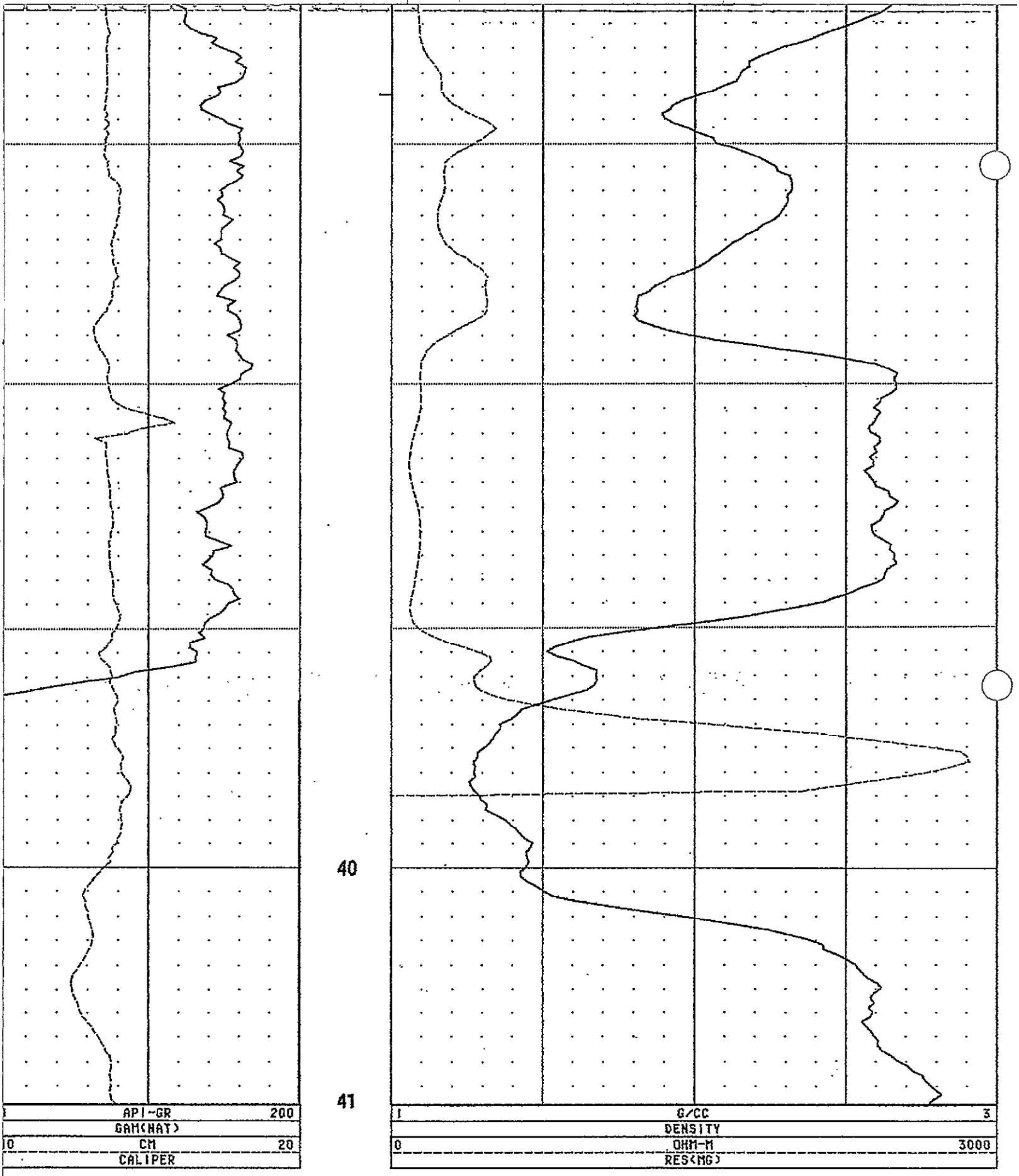

11.44
13.62
15.38



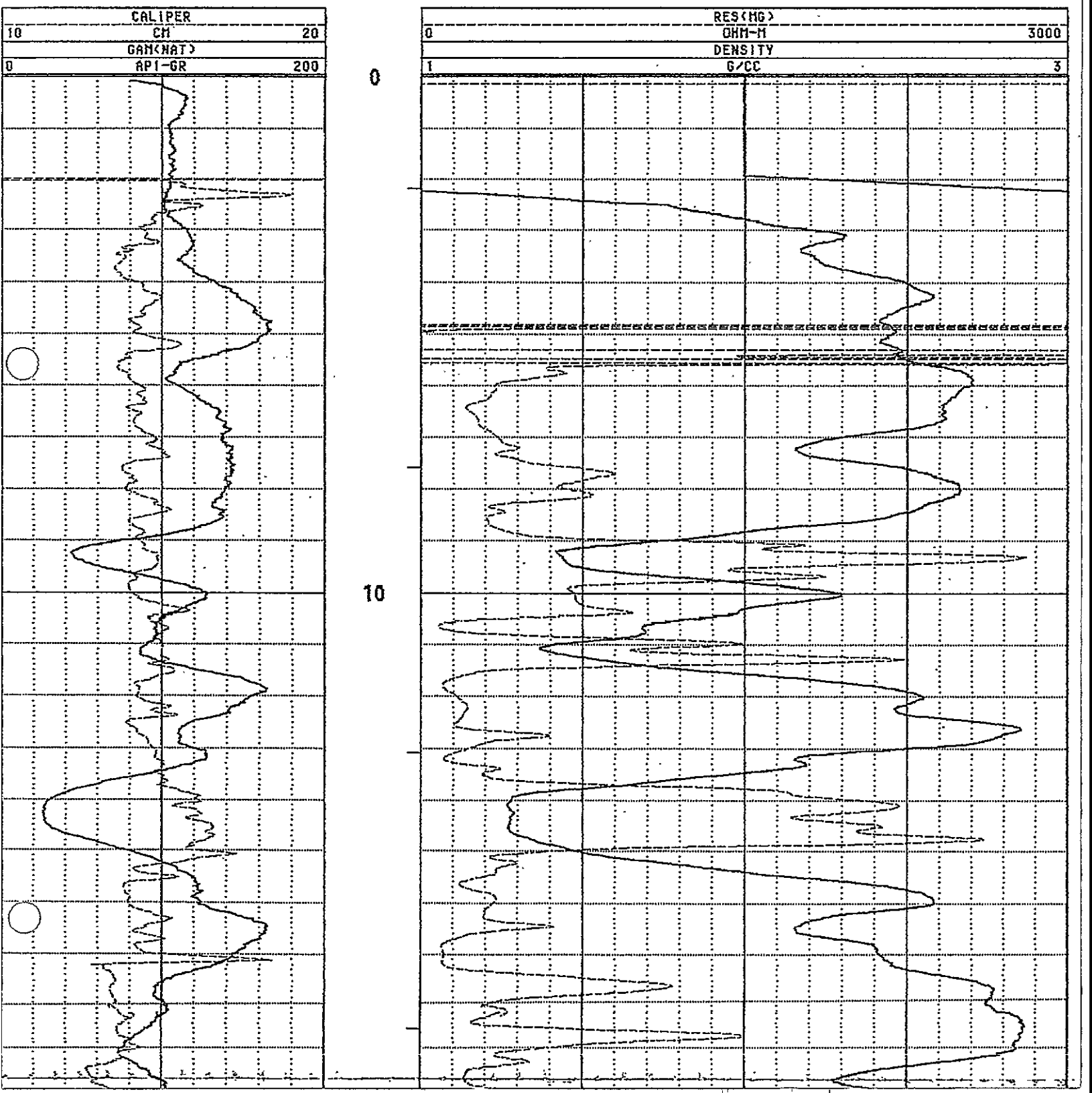
WRH-94013 03/18/94 440

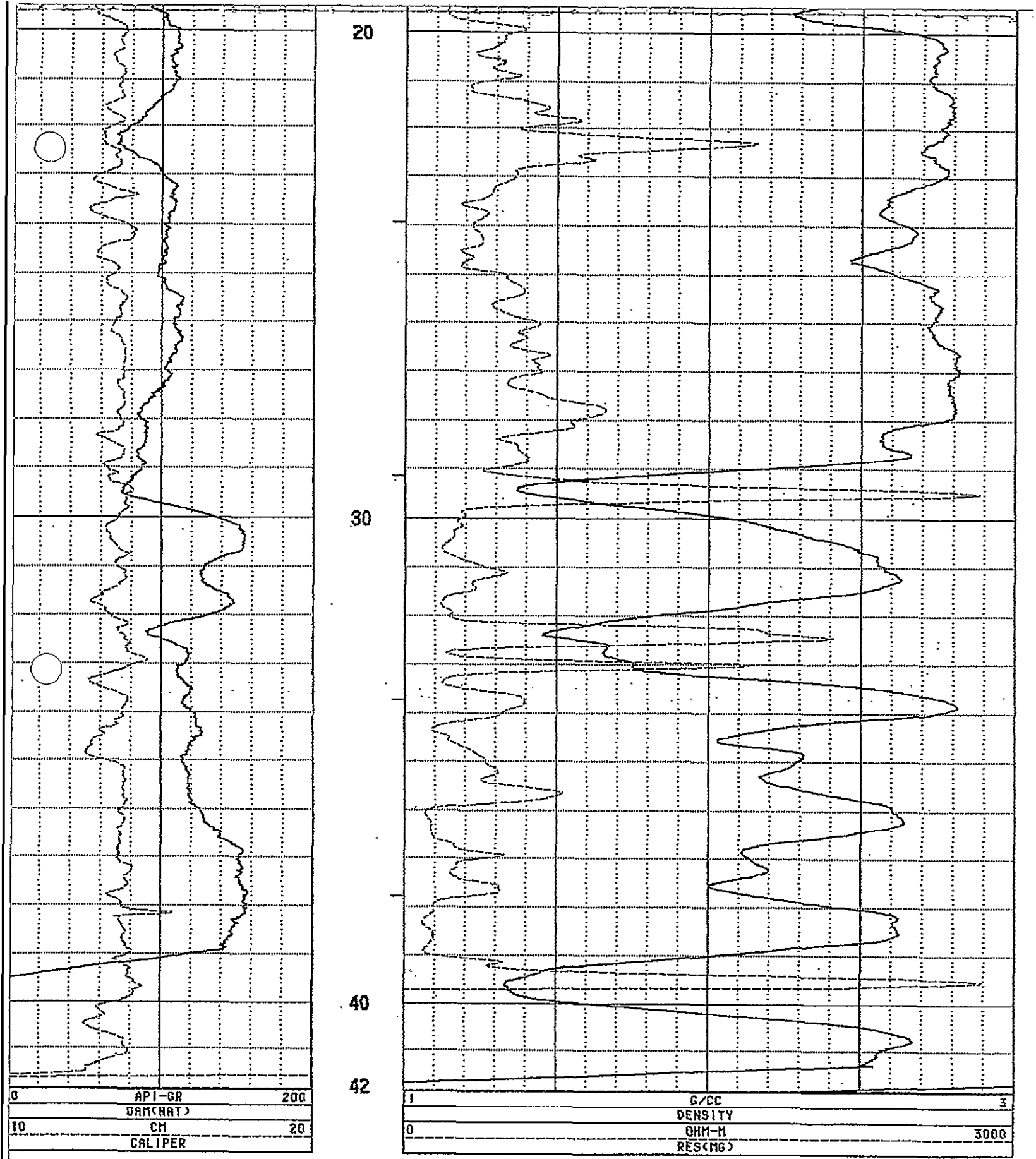

CALIPER
10
CN
20
GAM(NAT)
0
API-GR
200
RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
3
27
30





WRH-94013 03/18/94 440


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
RES(HG)
0
OHM-M
3000
DENSITY
1
G/CC
3
0
10



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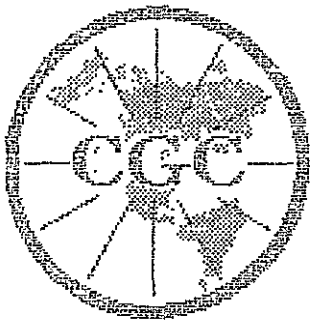
Appendix 3.13

WRH 94014



Century GEOPHYSICAL CORP.

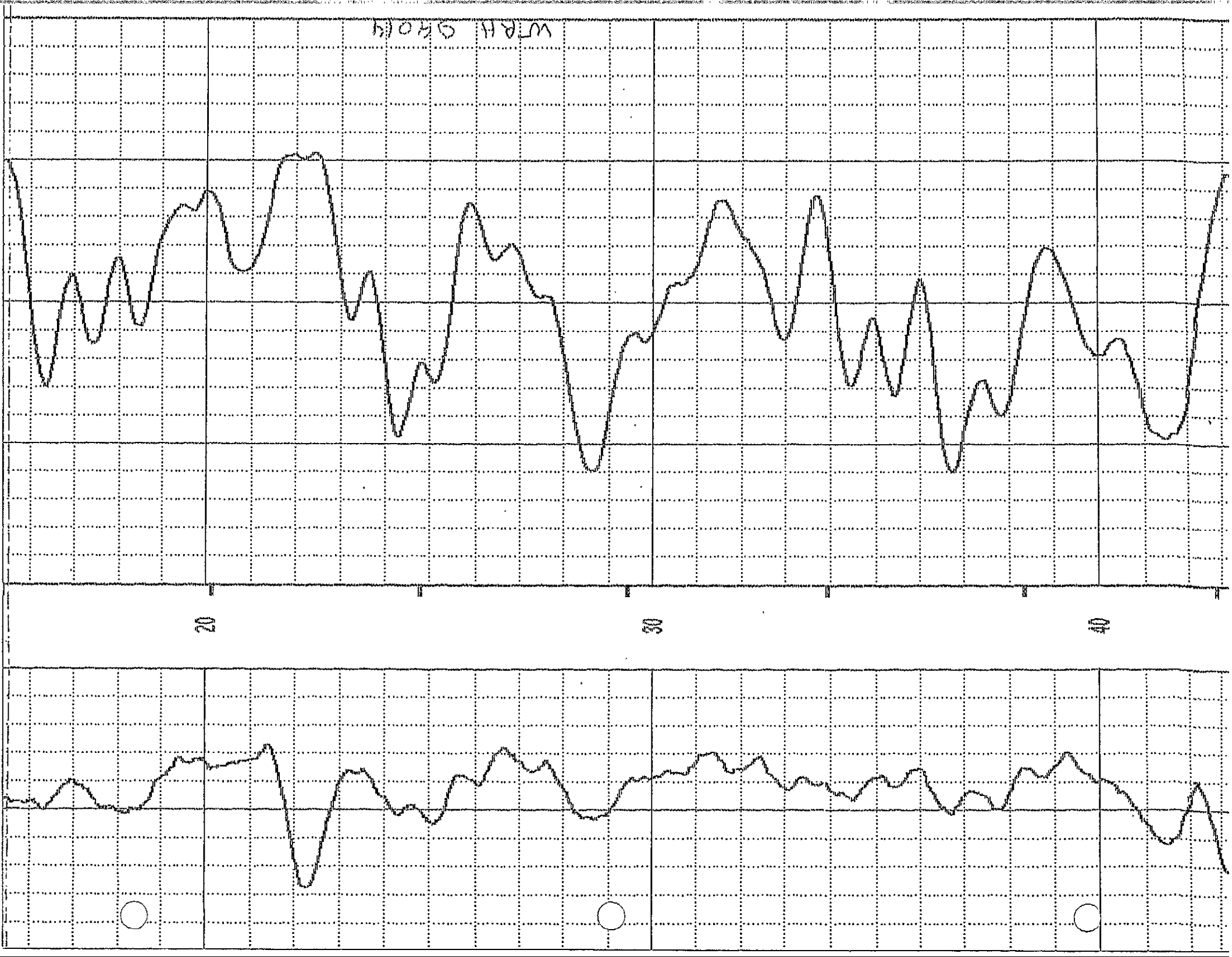
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94014				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/20/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 65.59	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.60	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055

GAM(RAT)
0
API-GR
200
NEUTRON
2000
API-N
0
0
10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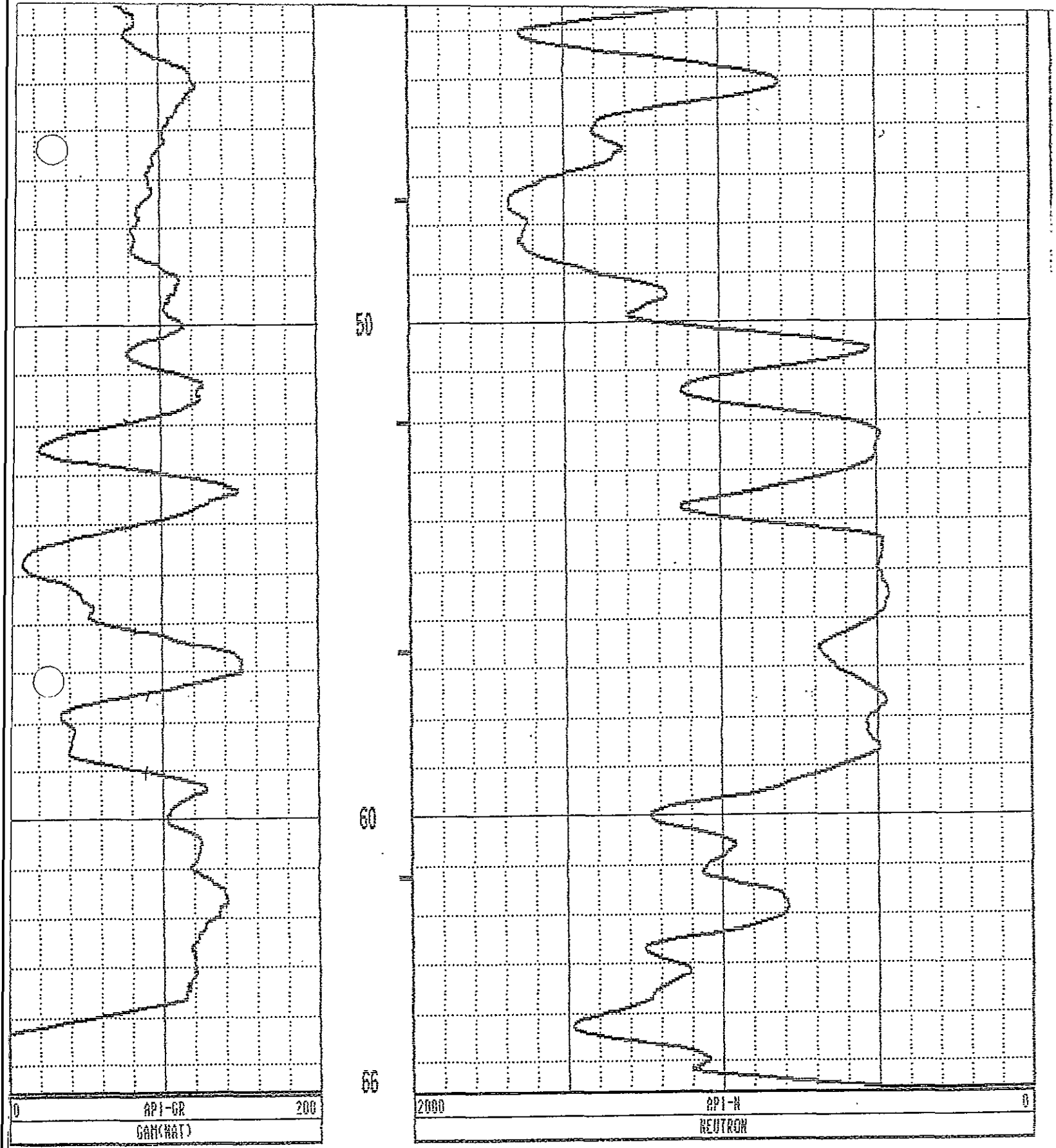
30
40



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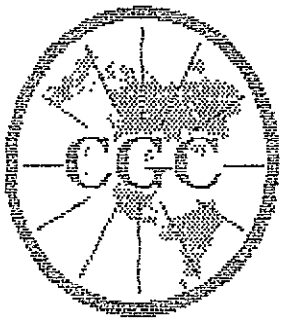
Picks

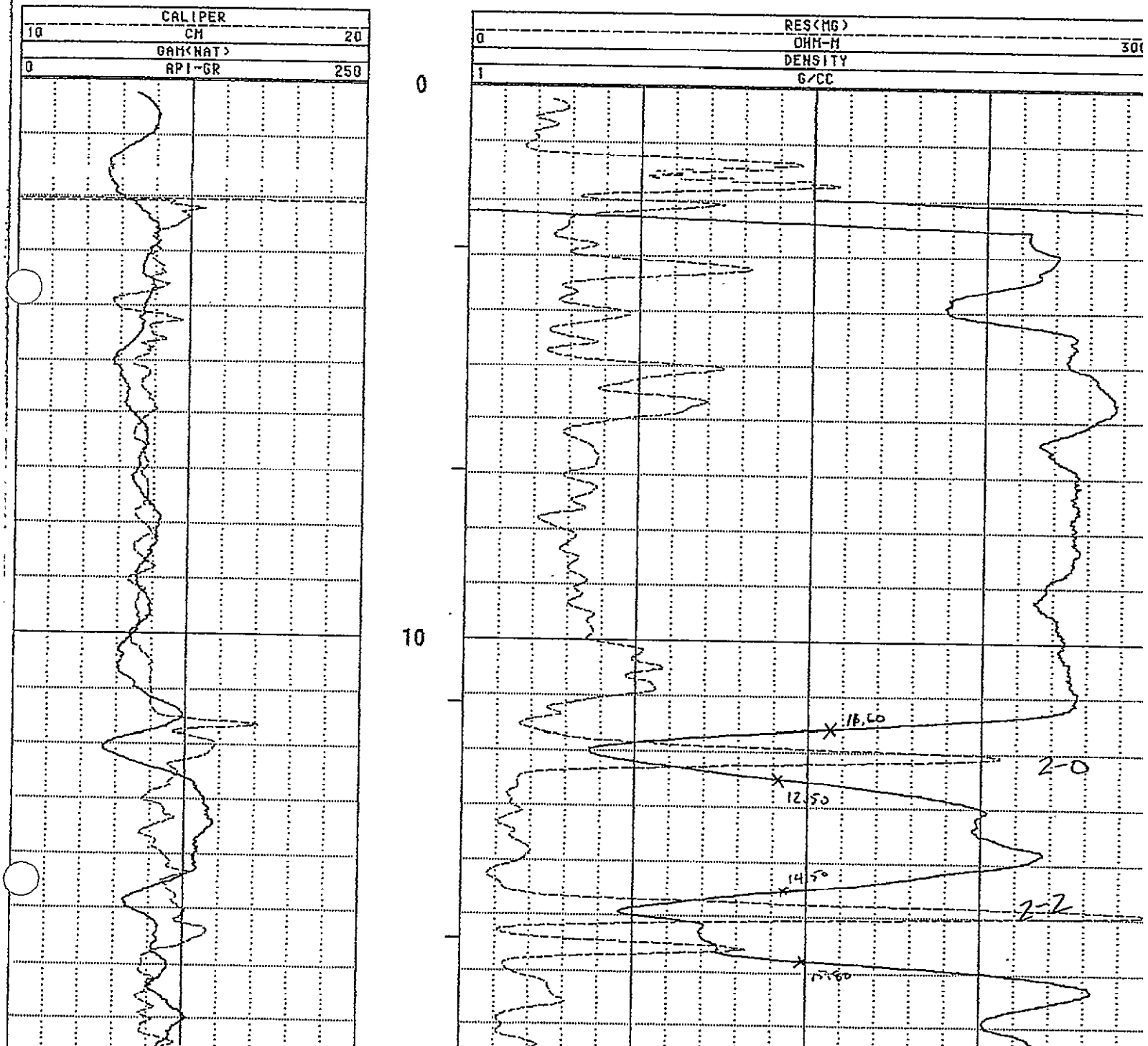


Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94014			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/20/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 65.59	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.26	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE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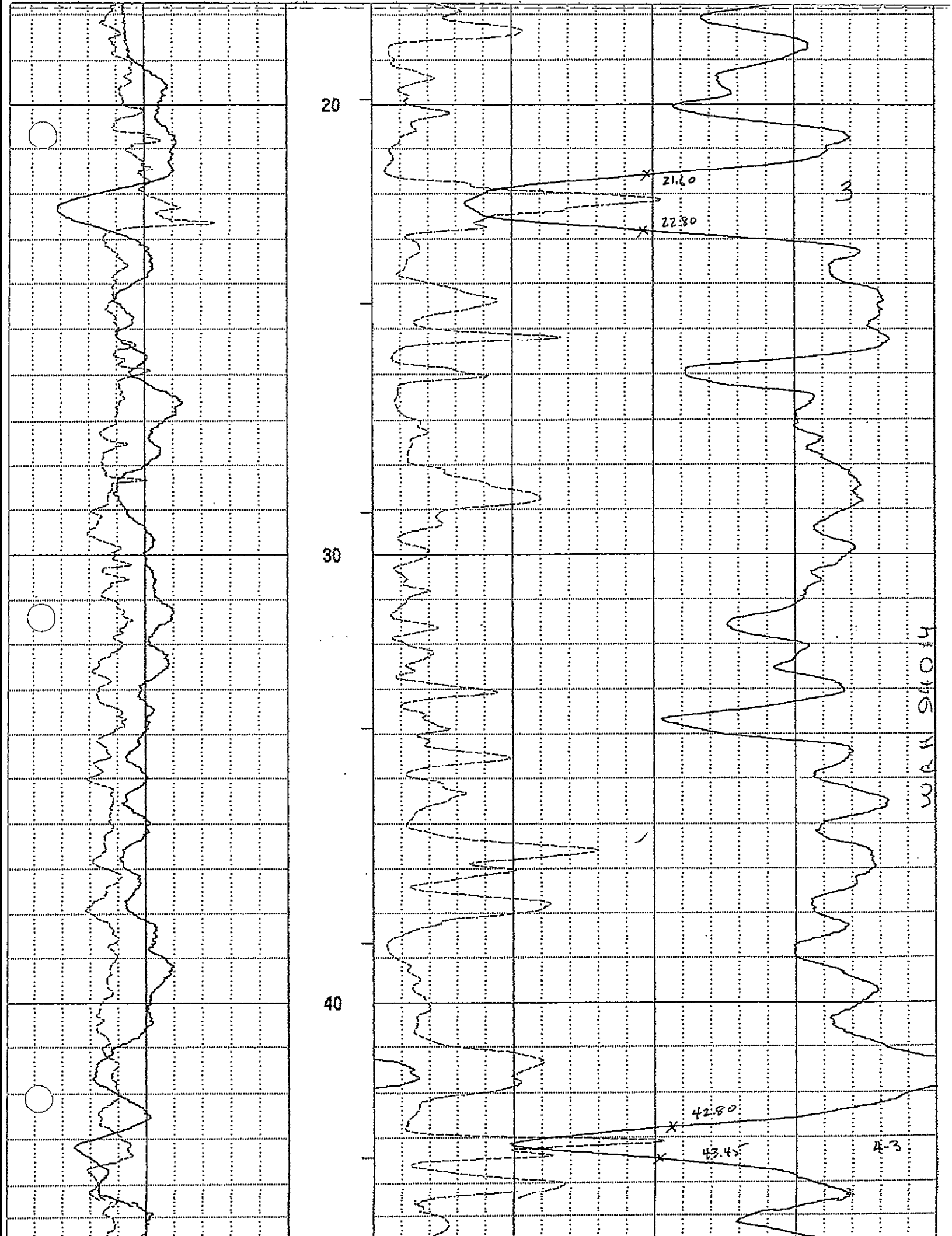
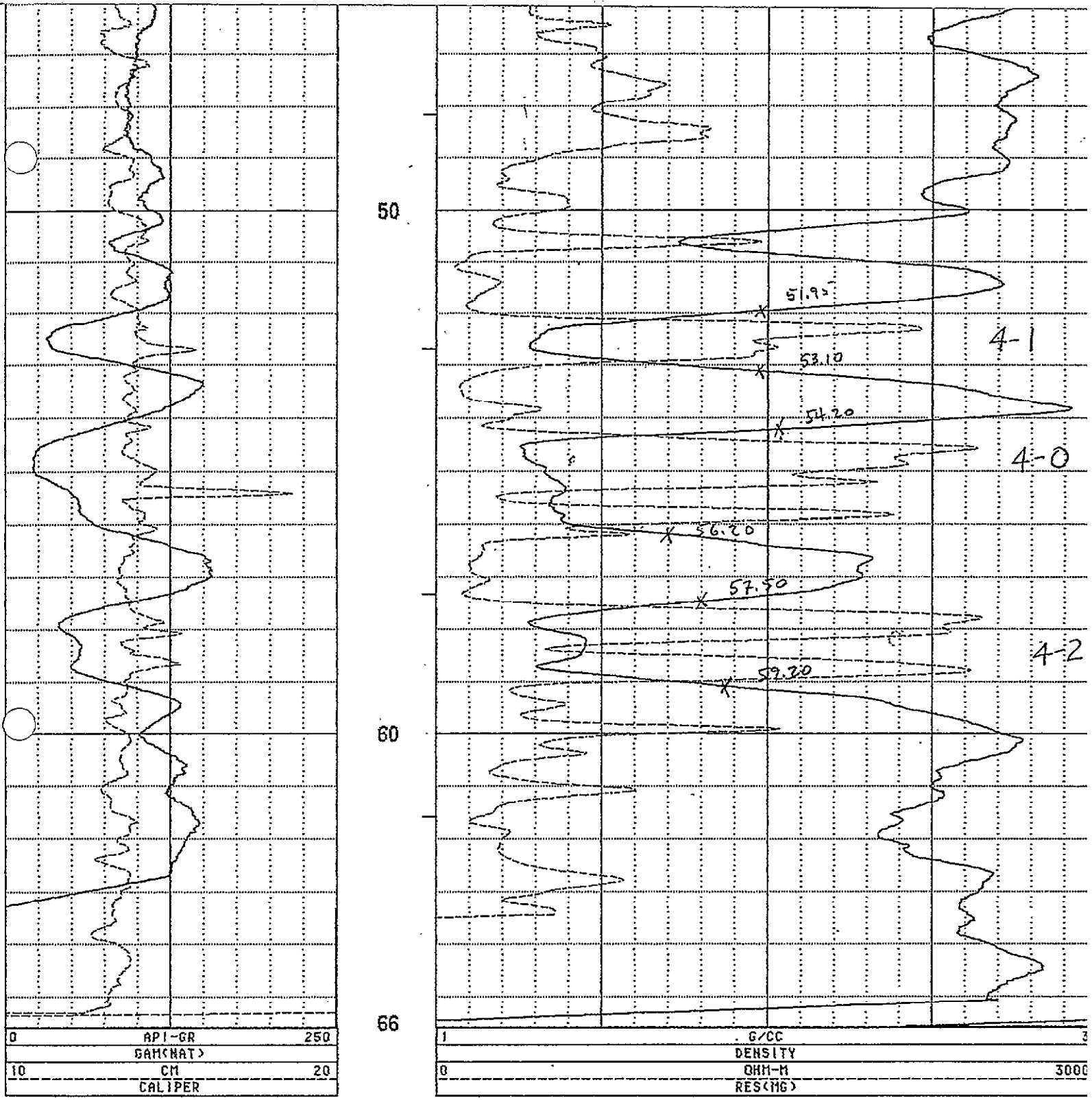
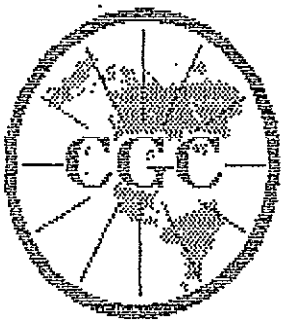
CM
20
GAM<NAT>
0
API-GR
250
RES<MG>
0
OHM-M
DENSITY
1
G/CC
0
10
18.60
12.50
14.50
2-0
2-2


20
30
40
21.60
22.80
42.80
43.45
WALK SLOW
4-3



WRH-94014 03/20/94 440



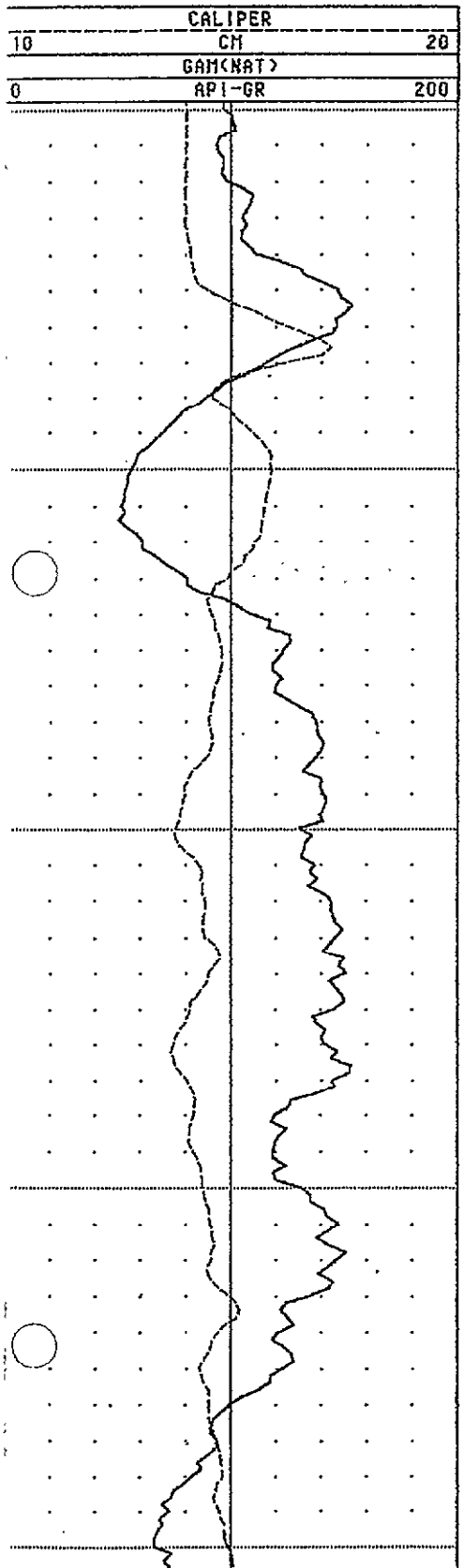
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94014				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/20/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 65.59	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.26	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

OTHER SERVICES:
9030
9055

REMARKS :
OPEN HOLE
*** EXPANDED LOG ***


CALIPER
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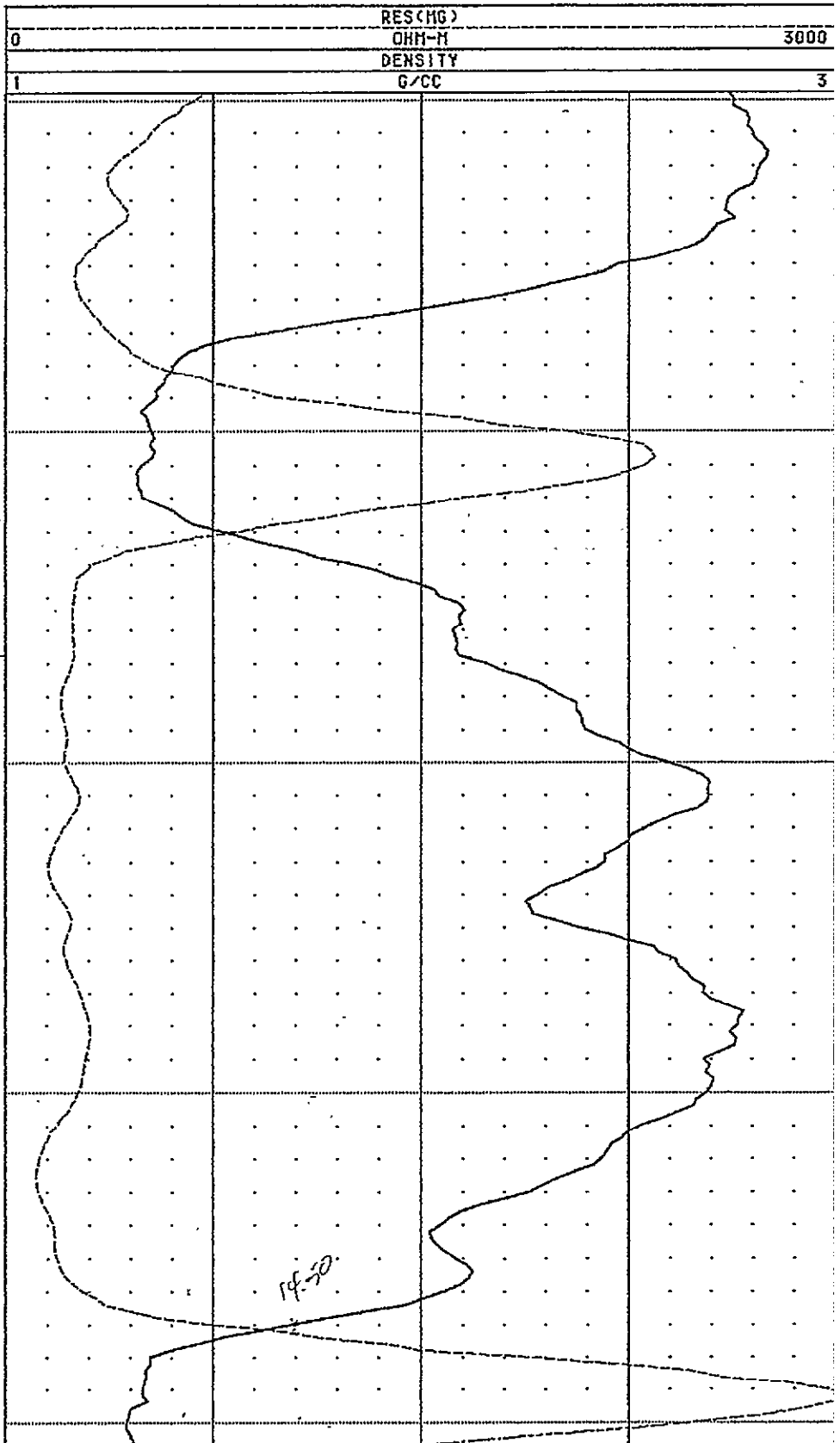
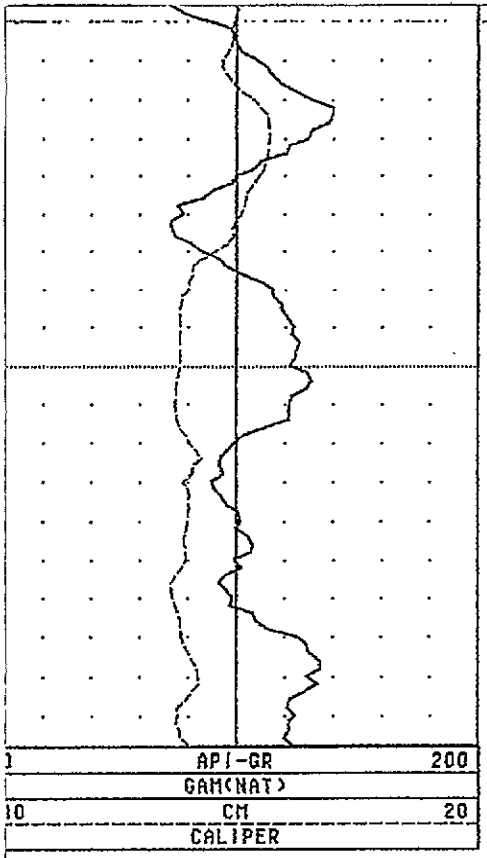
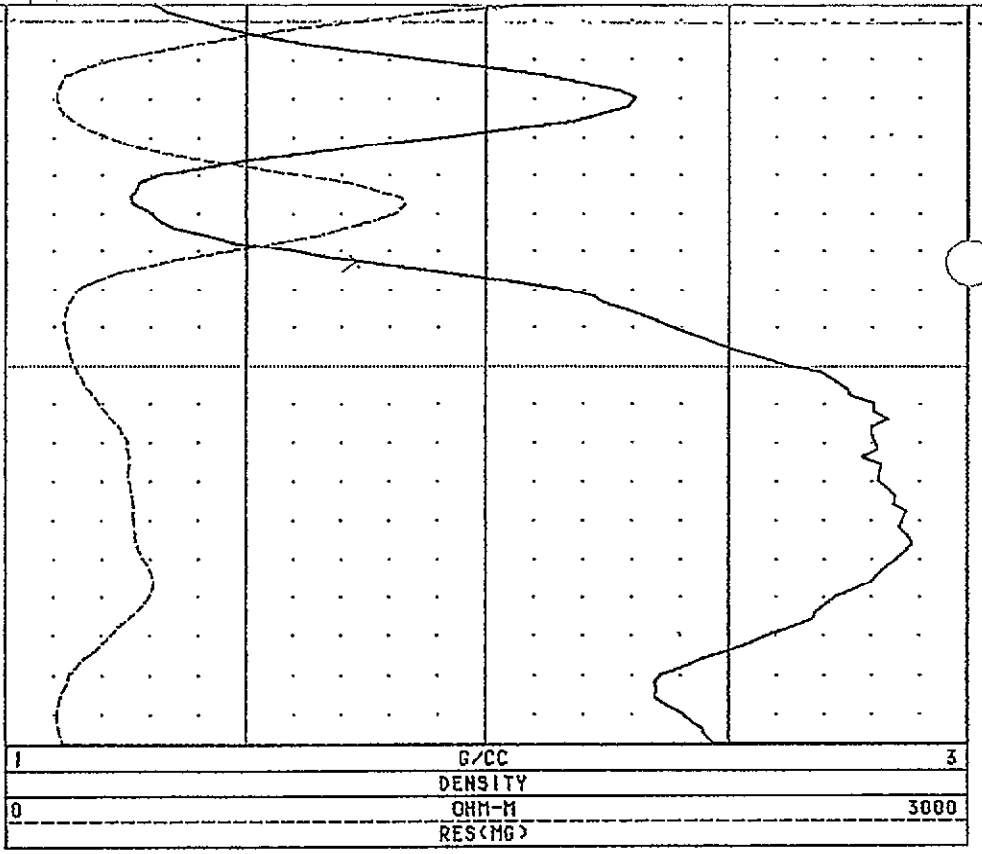
CM
20
GAM(NAT)
0
API-GR
200

10

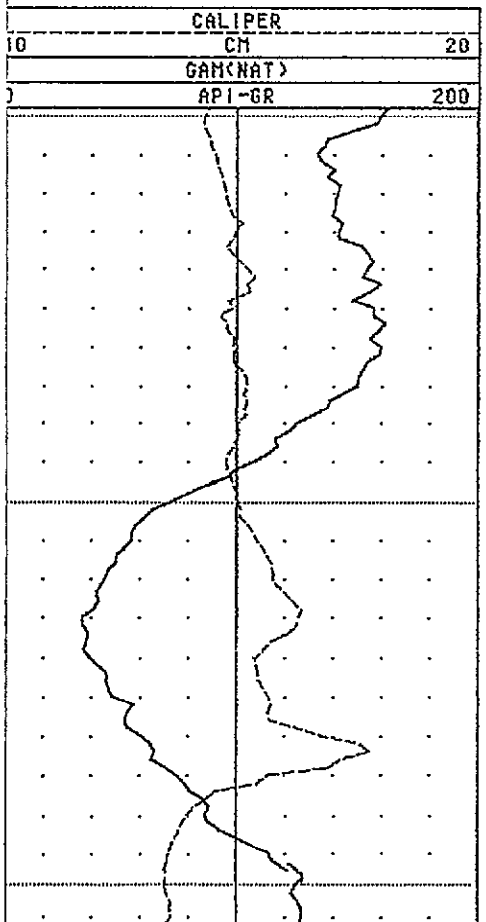

RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
3
14-30



17



WRH-94014 03/20/94 440



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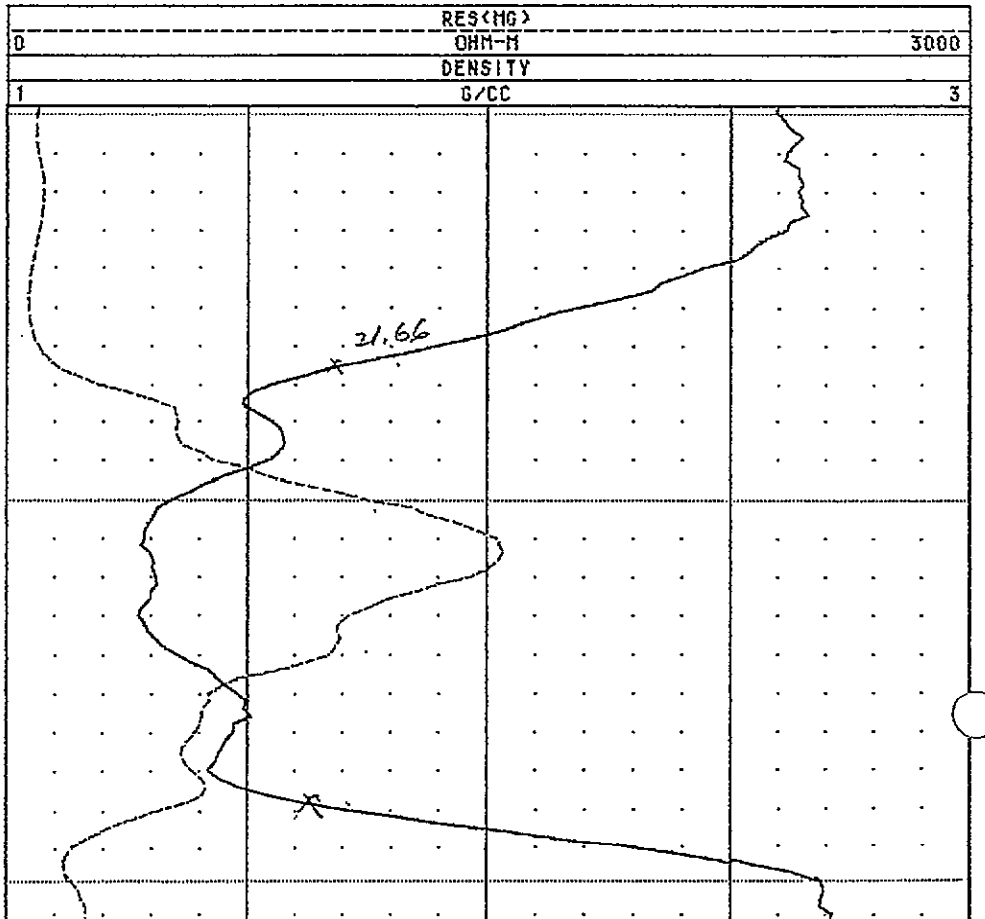
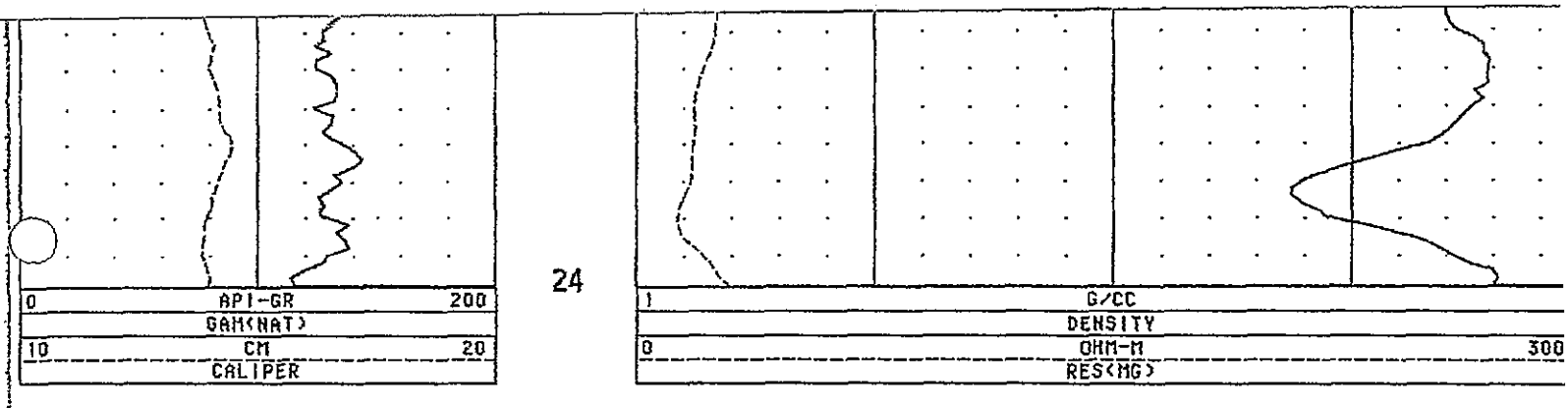
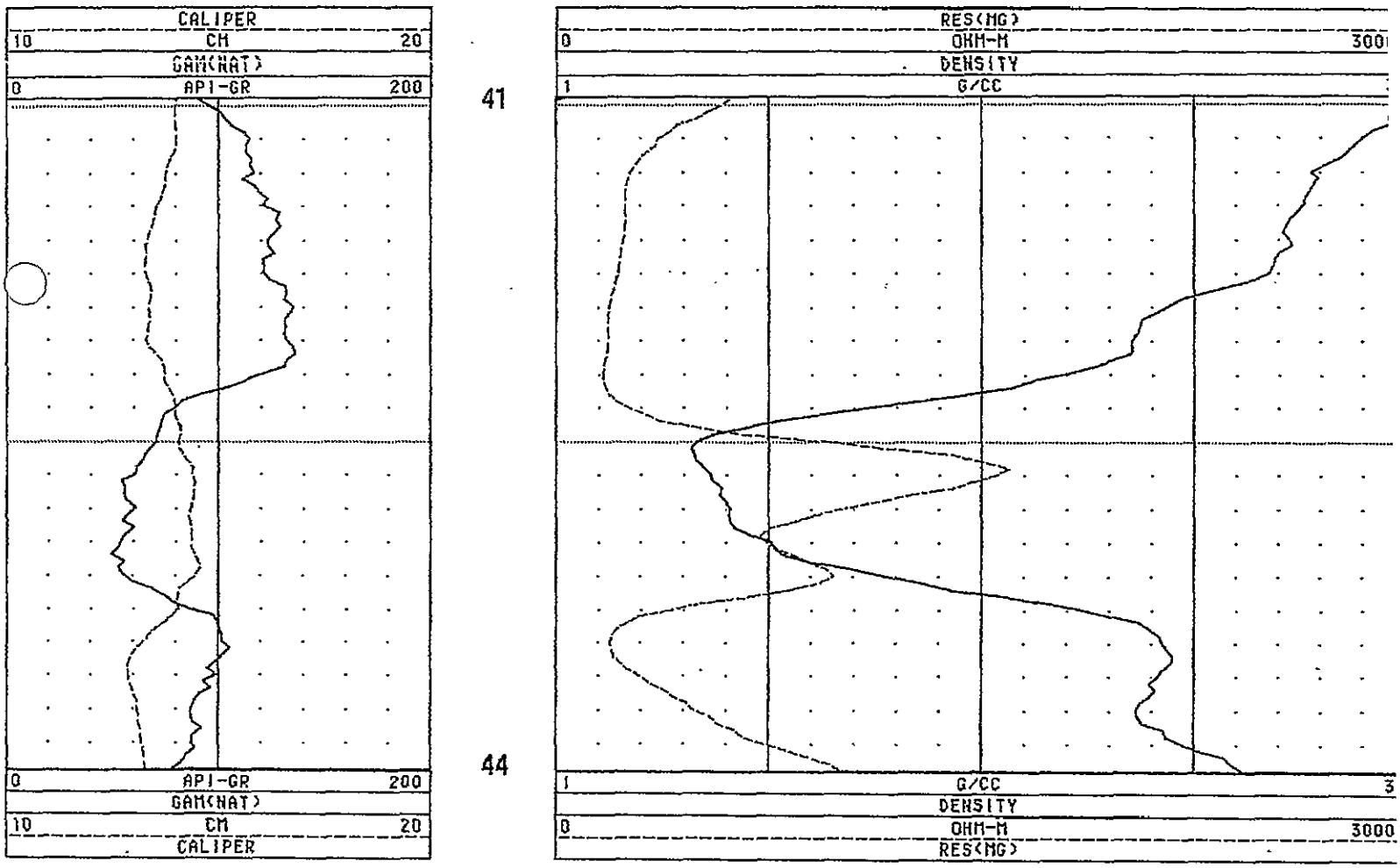
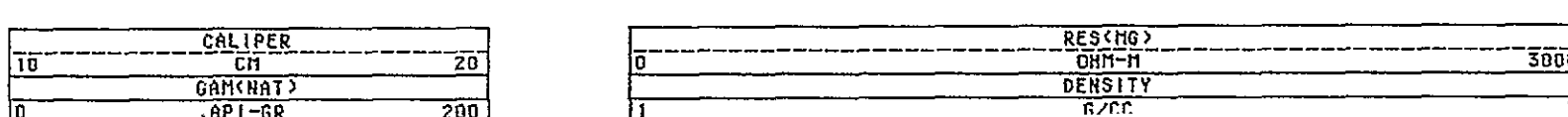


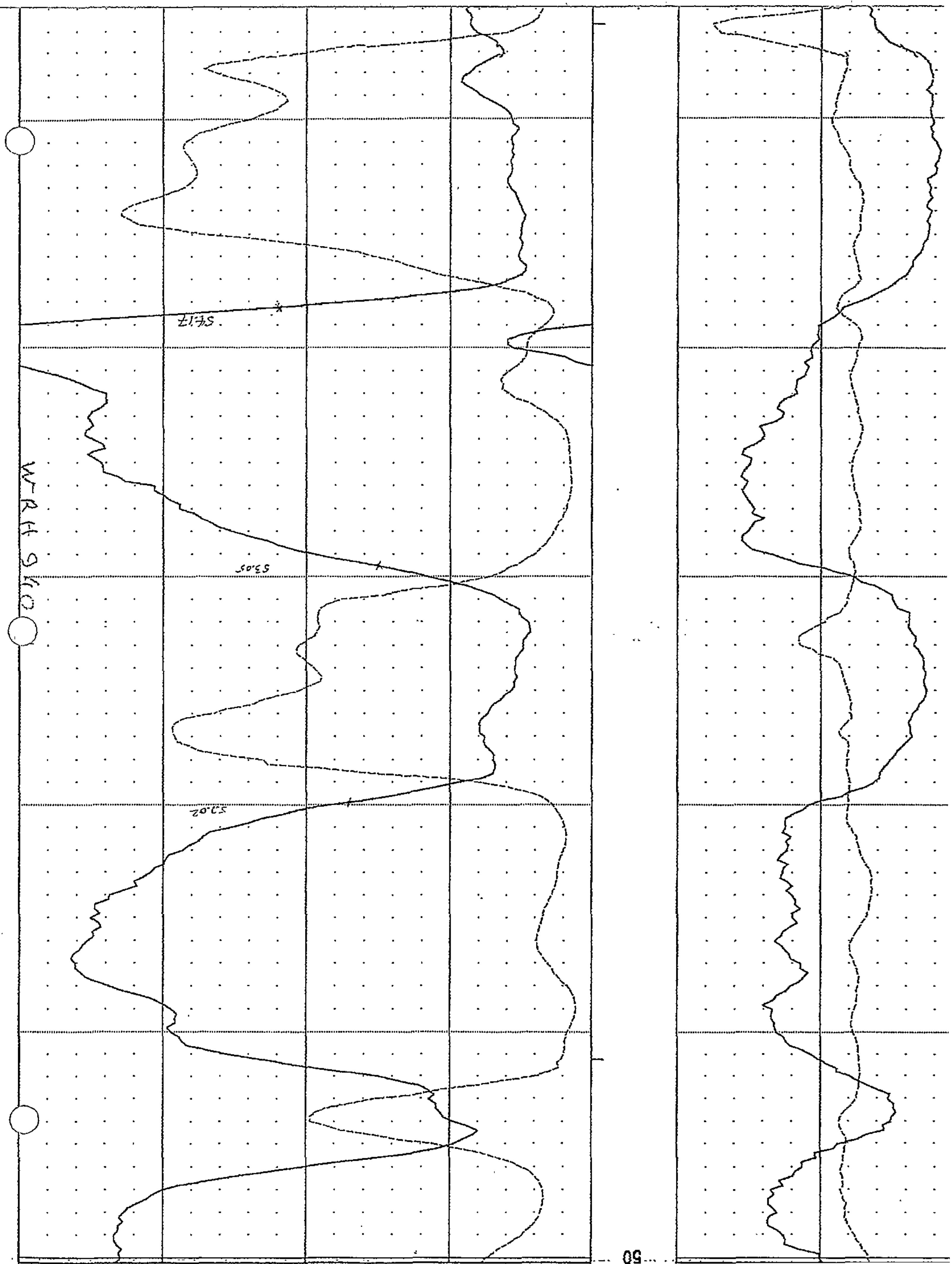


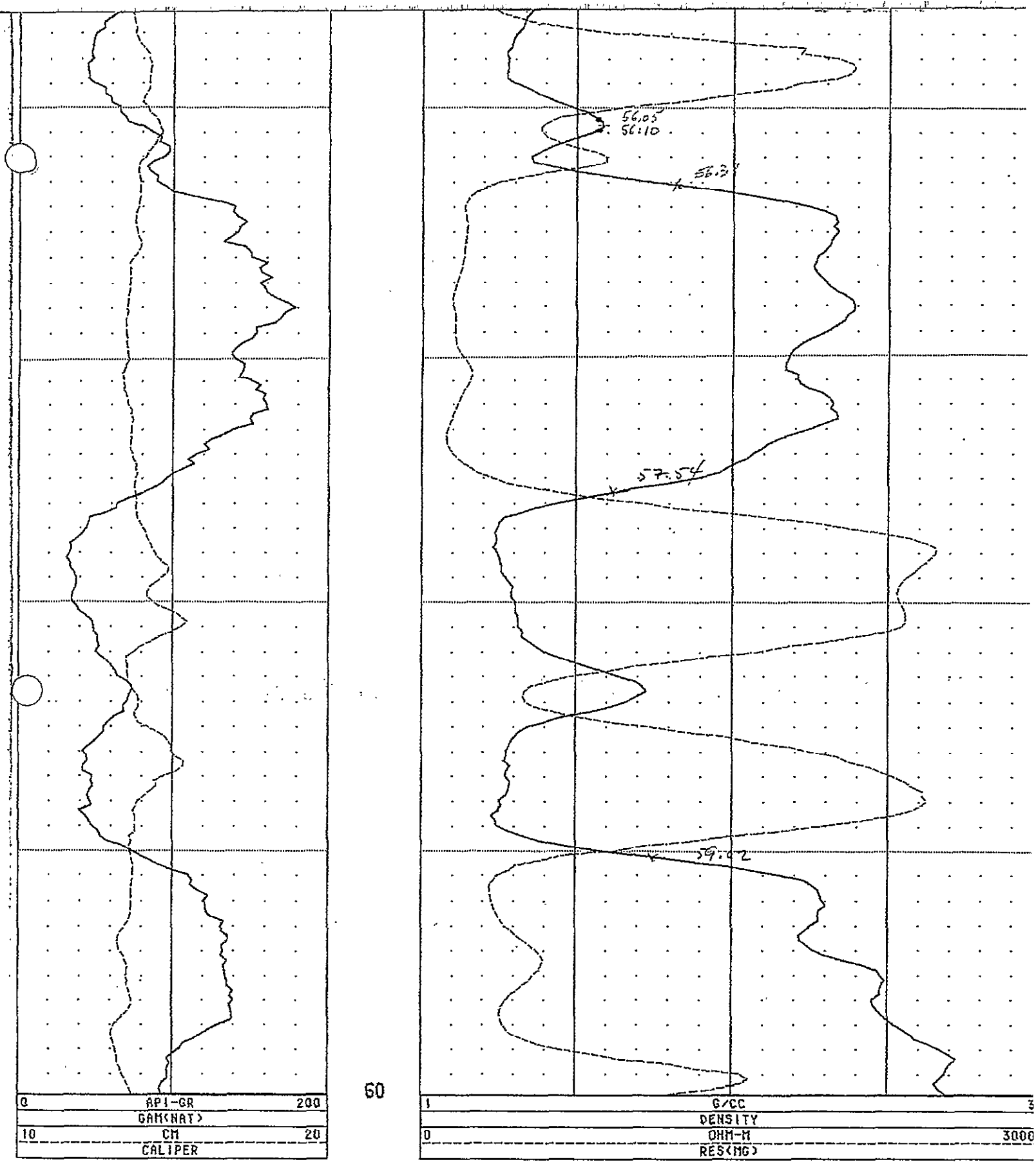
WRH-94014 03/20/94 440



WRH-94014 03/20/94 440

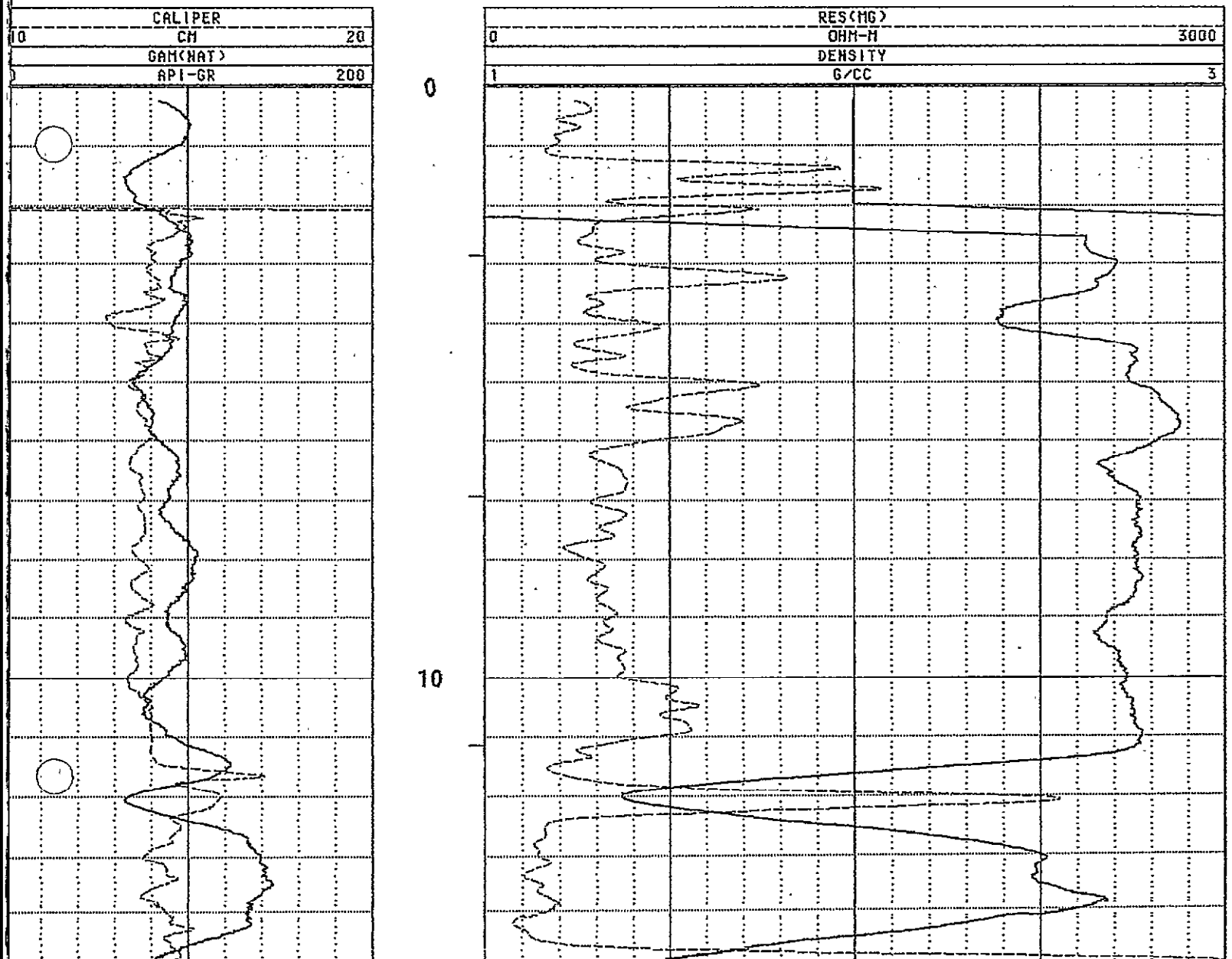



54.17
53.05
52.02
50



WRH-94014 03/20/94 440

WAK 94014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10
CM
20
GAM(NAT)
API-GR
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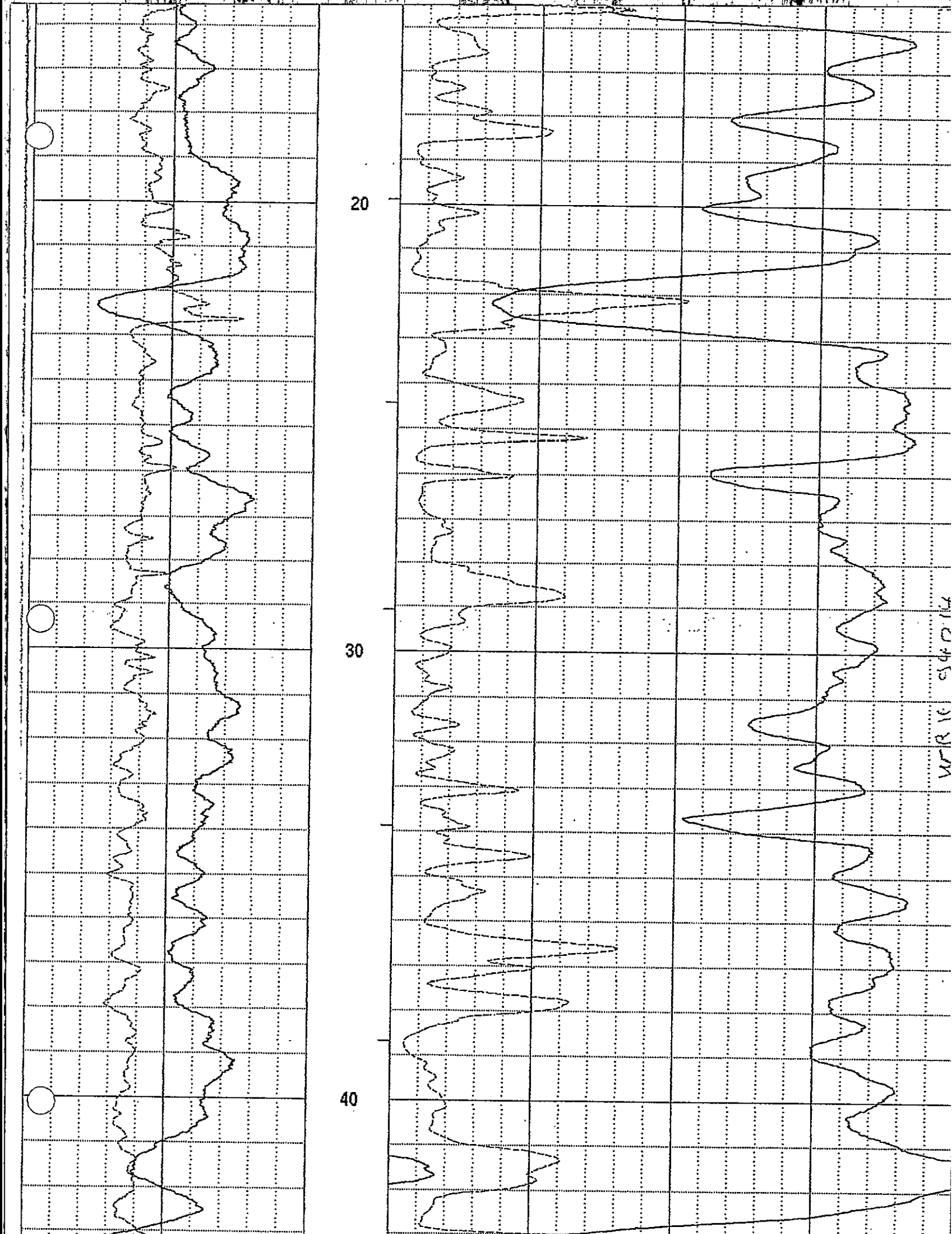
RES(MG)
0
OHM-M
3000
DENSITY
1
G/CC
3
0
10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30
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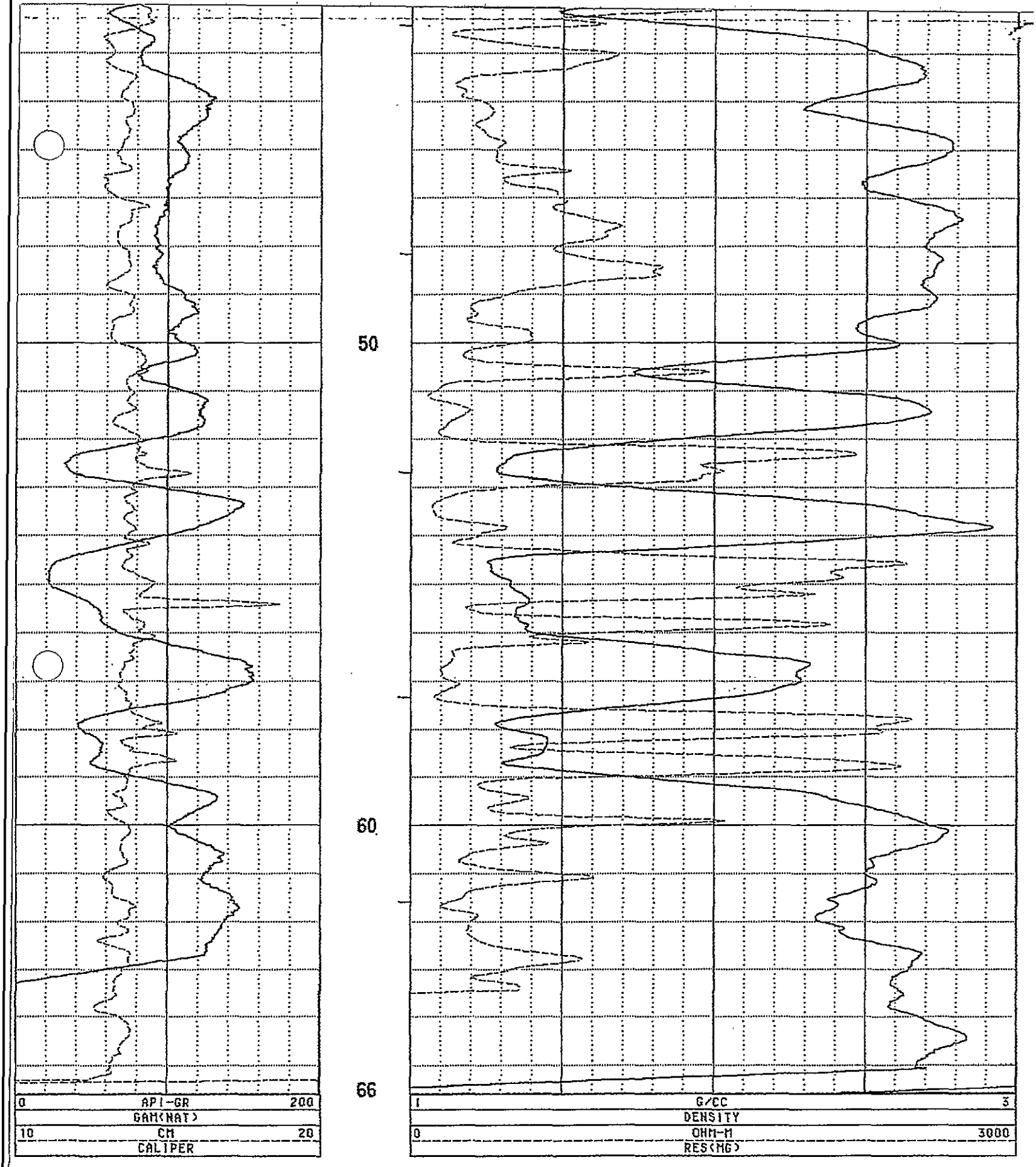


WRH-94014 03/20/94 440

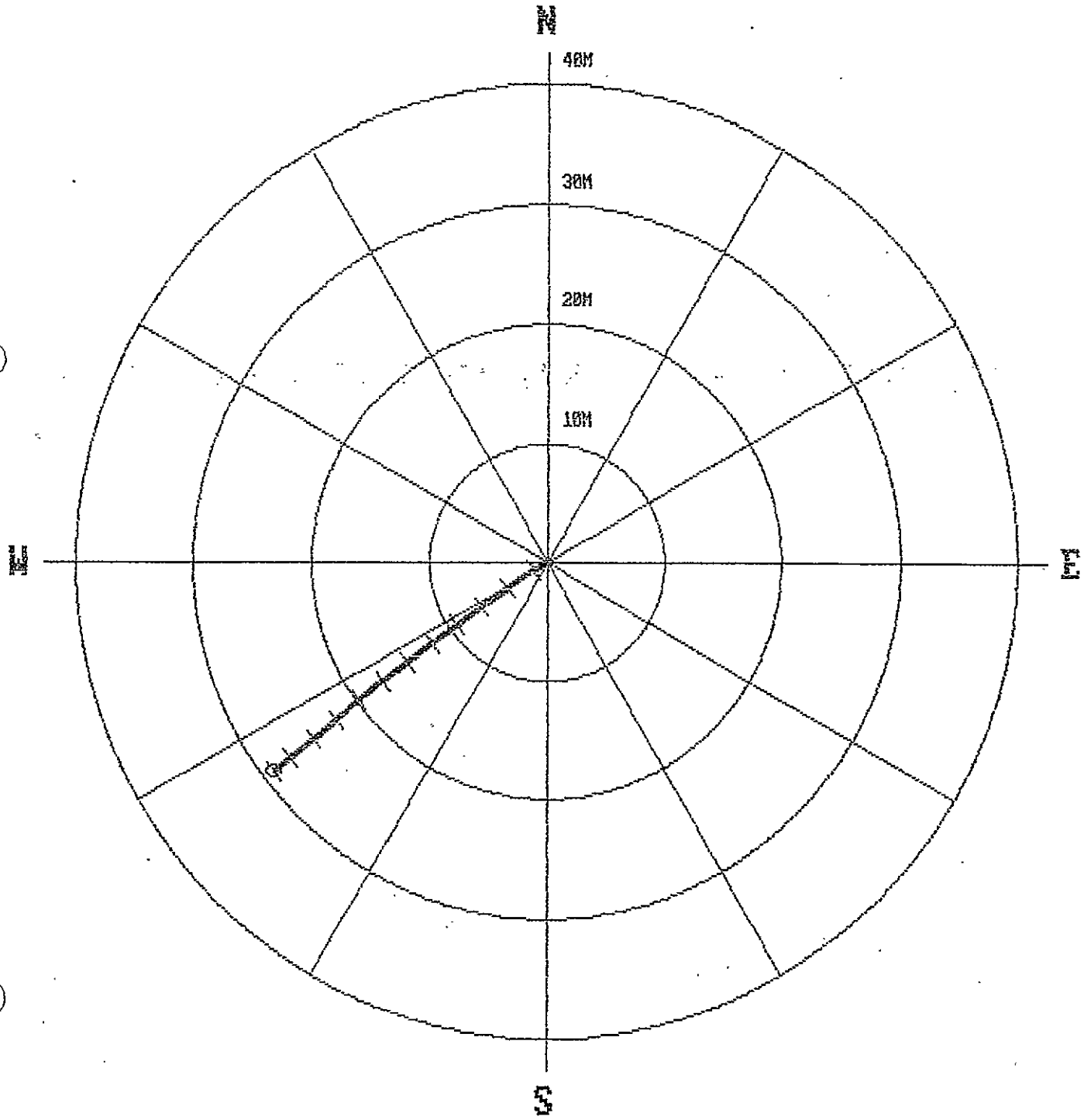
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94014
DATE OF LOG: 03/20/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 5 M/CM
TRUE DEPTH: 58.44 M
AZIMUTH: 232.8
DISTANCE: 29.0 M
+ = 5 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * *

CLIENT	: GLOBALTEX	HOLE ID.	: WRH-94014
FIELD OFFICE	: CALGARY	DATE OF LOG	: 03/20/94
DATA FROM	:	PROBE	: 9055A , 255
MAG. DECL.	: 24.500	DEPTH UNITS	: METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.6	2.56	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.70	-0.55	-1.01	1.1	241.3	28.3	242.8
10.0	9.10	-1.86	-2.98	3.5	238.0	28.6	234.6
15.0	13.51	-3.22	-4.91	5.9	236.7	28.1	235.4
20.0	17.93	-4.61	-6.79	8.2	235.8	27.6	236.1
25.0	22.36	-5.97	-8.64	10.5	235.4	27.6	233.9
30.0	26.80	-7.33	-10.50	12.8	235.1	27.4	233.1
35.0	31.24	-8.72	-12.34	15.1	234.8	27.3	231.8
40.0	35.67	-10.14	-14.17	17.4	234.4	27.4	241.0
45.0	40.10	-11.59	-15.95	19.7	234.0	27.4	235.5
50.0	44.55	-13.08	-17.63	22.0	233.4	27.1	231.3
55.0	49.00	-14.50	-19.33	24.2	233.1	27.3	253.0
60.0	53.45	-15.94	-21.08	26.4	232.9	27.2	231.7
65.0	57.90	-17.34	-22.86	28.7	232.8	27.2	235.5
65.6	58.44	-17.53	-23.06	29.0	232.8	27.1	221.4
70.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

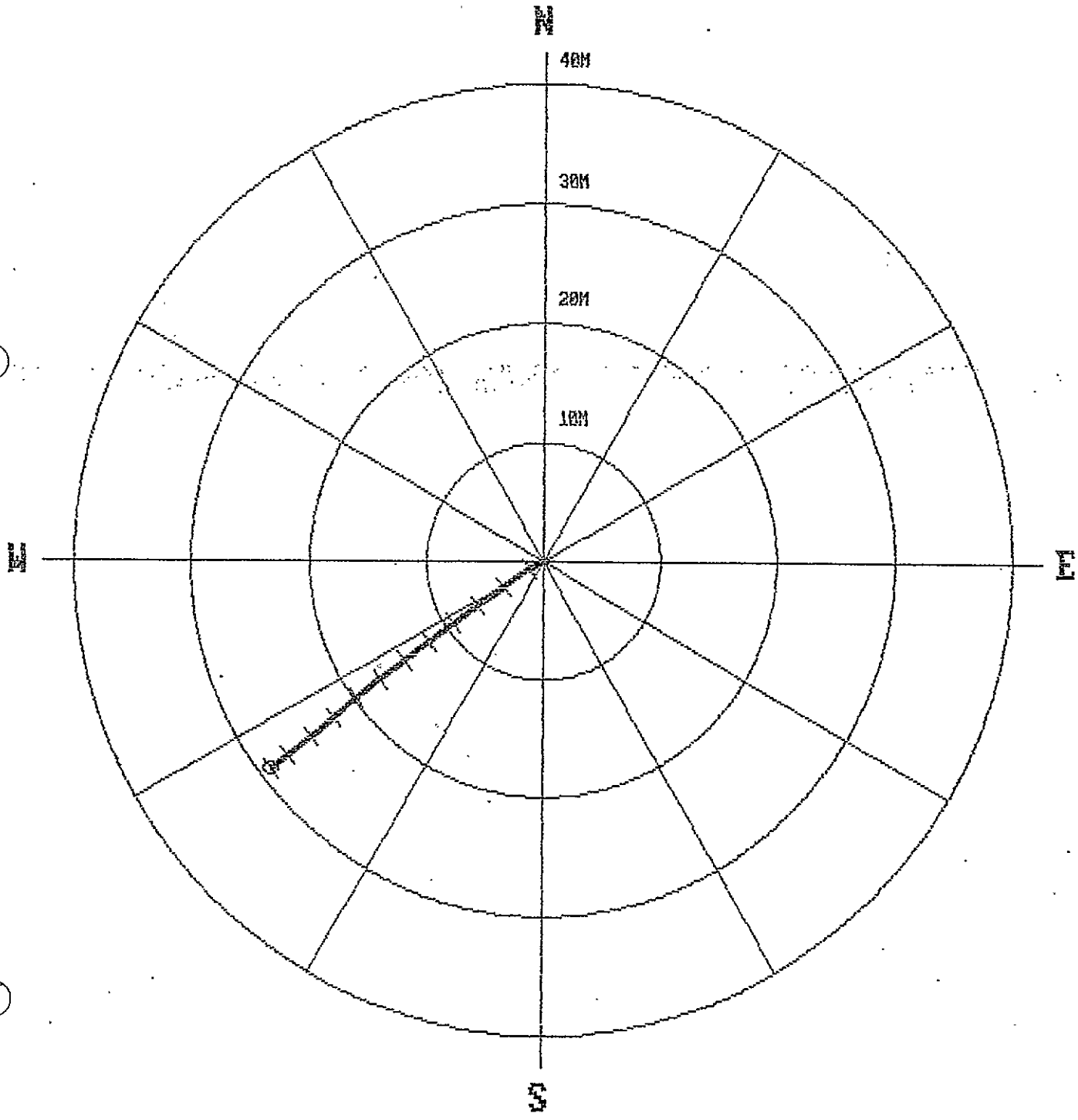
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94014
DATE OF LOG: 03/20/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 5 M/CM
TRUE DEPTH: 58.44 M
AZIMUTH: 232.8
DISTANCE: 29.0 M
+ = 5 M INCR
○ = BOTTOM OF HOLE



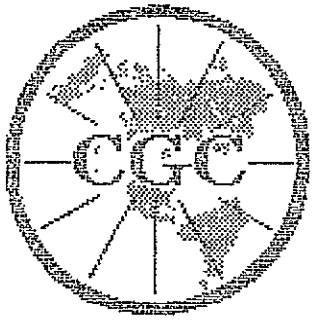
* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

CLIENT	: GLOBALTEX	HOLE ID.	: WRH-94014
FIELD OFFICE	: CALGARY	DATE OF LOG	: 03/20/94
DATA FROM	:	PROBE	: 9055A , 255
MAG. DECL.	: 24.500	DEPTH UNITS	: METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.6	2.56	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.70	-0.55	-1.01	1.1	241.3	28.3	242.8
10.0	9.10	-1.86	-2.98	3.5	238.0	28.6	234.6
15.0	13.51	-3.22	-4.91	5.9	236.7	28.1	235.4
20.0	17.93	-4.61	-6.79	8.2	235.8	27.6	236.1
25.0	22.36	-5.97	-8.64	10.5	235.4	27.6	233.9
30.0	26.80	-7.33	-10.50	12.8	235.1	27.4	233.1
35.0	31.24	-8.72	-12.34	15.1	234.8	27.3	231.8
40.0	35.67	-10.14	-14.17	17.4	234.4	27.4	241.0
45.0	40.10	-11.59	-15.95	19.7	234.0	27.4	235.5
50.0	44.55	-13.08	-17.63	22.0	233.4	27.1	231.3
55.0	49.00	-14.50	-19.33	24.2	233.1	27.3	253.0
60.0	53.45	-15.94	-21.08	26.4	232.9	27.2	231.7
65.0	57.90	-17.34	-22.86	28.7	232.8	27.2	235.5
65.6	58.44	-17.53	-23.06	29.0	232.8	27.1	221.4
70.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.14

WRH 94015



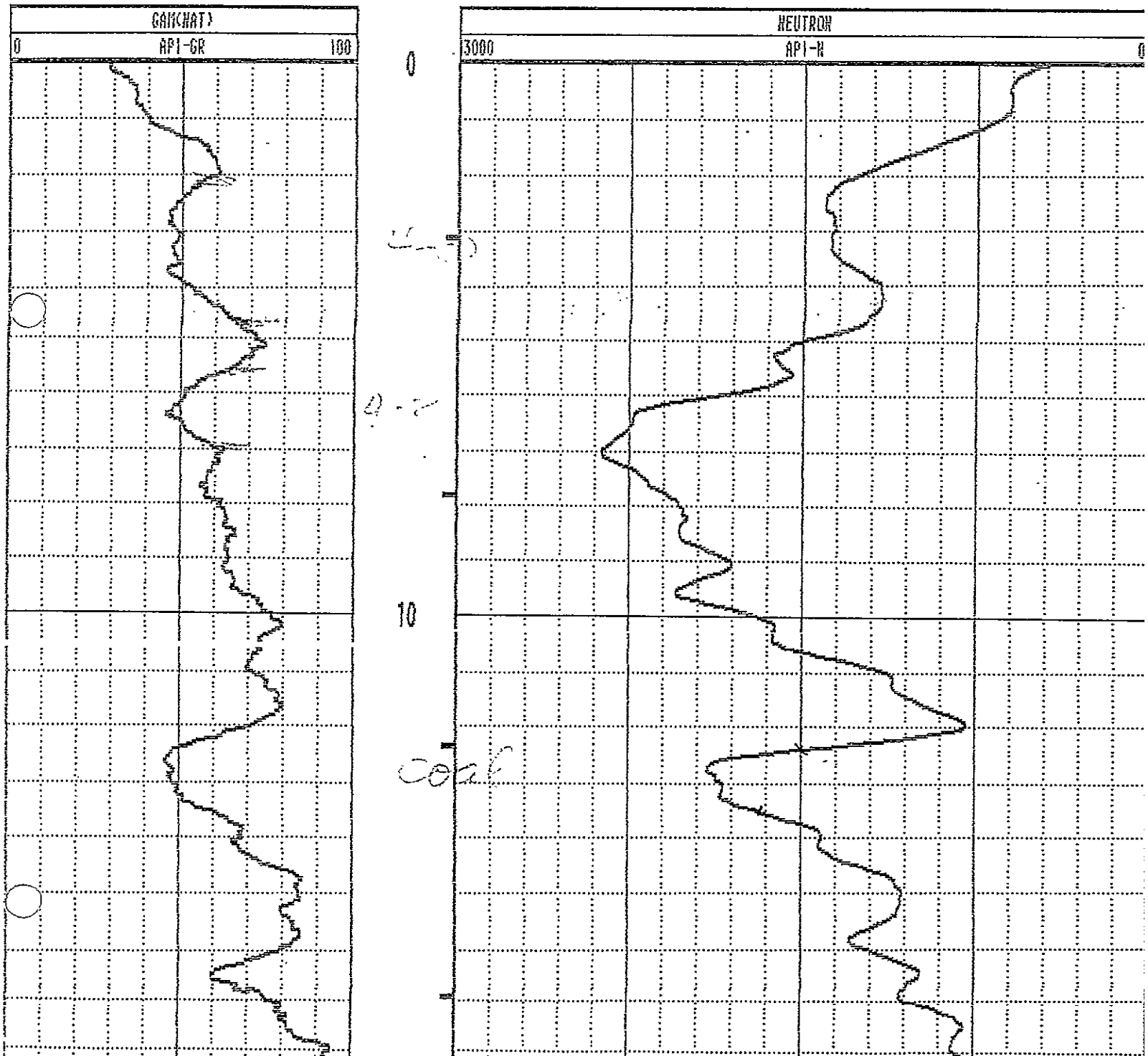
Century GEOPHYSICAL CORP.

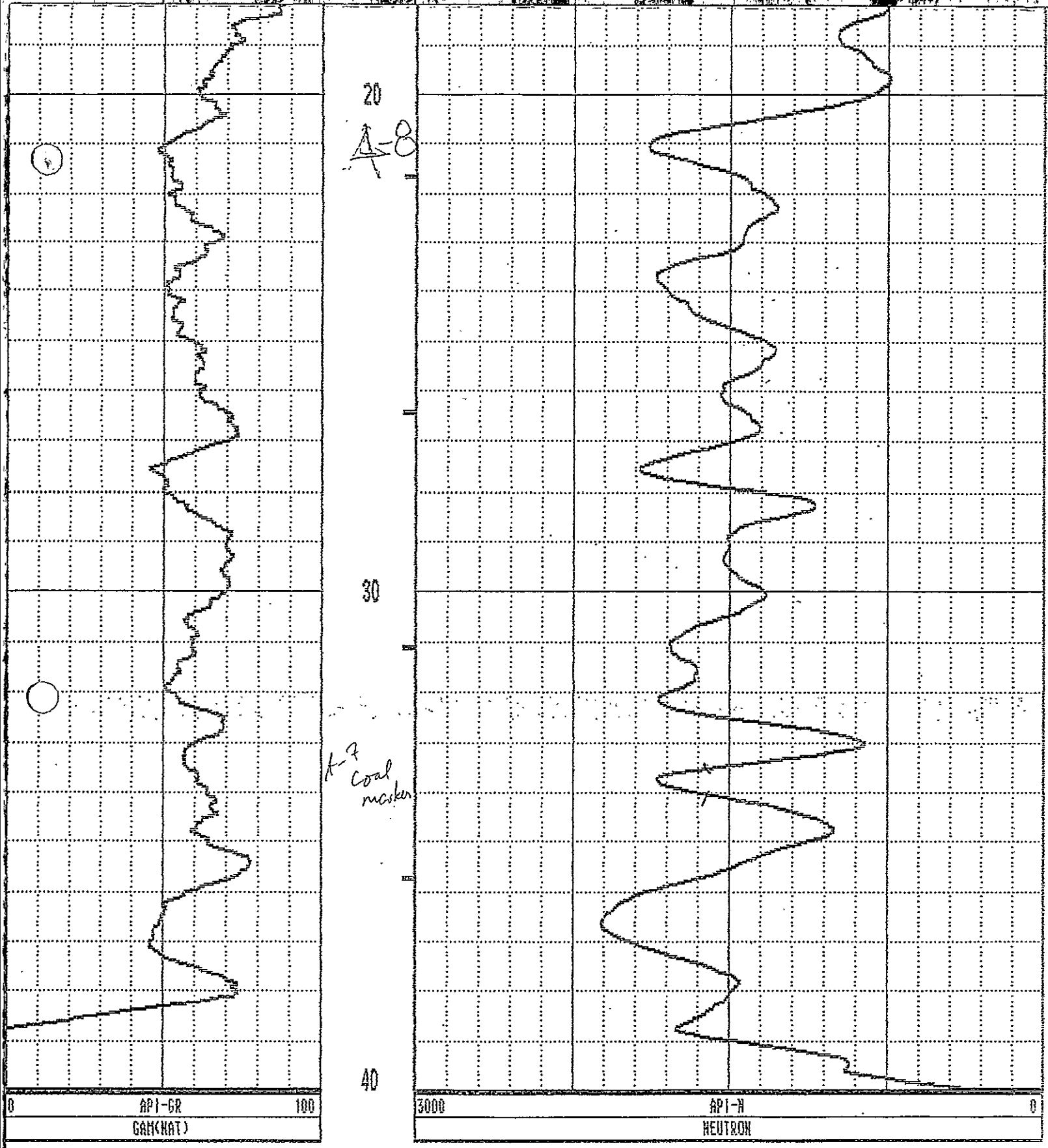
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94015				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/20/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 40.04	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -1.45	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LENYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OTHER SERVICES:
9030
9055

THROUGH RODS

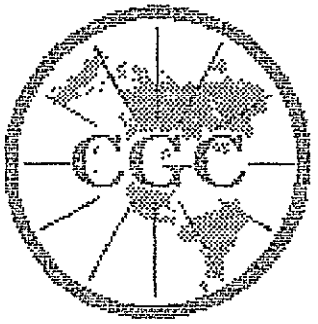

GAM(HAT)
0
API-GR
100
NEUTRON
3000
API-R
0
10



WRH-94015 03/20/94 255

Appendix 3.15

WRH 94018



Century GEOPHYSICAL CORP.

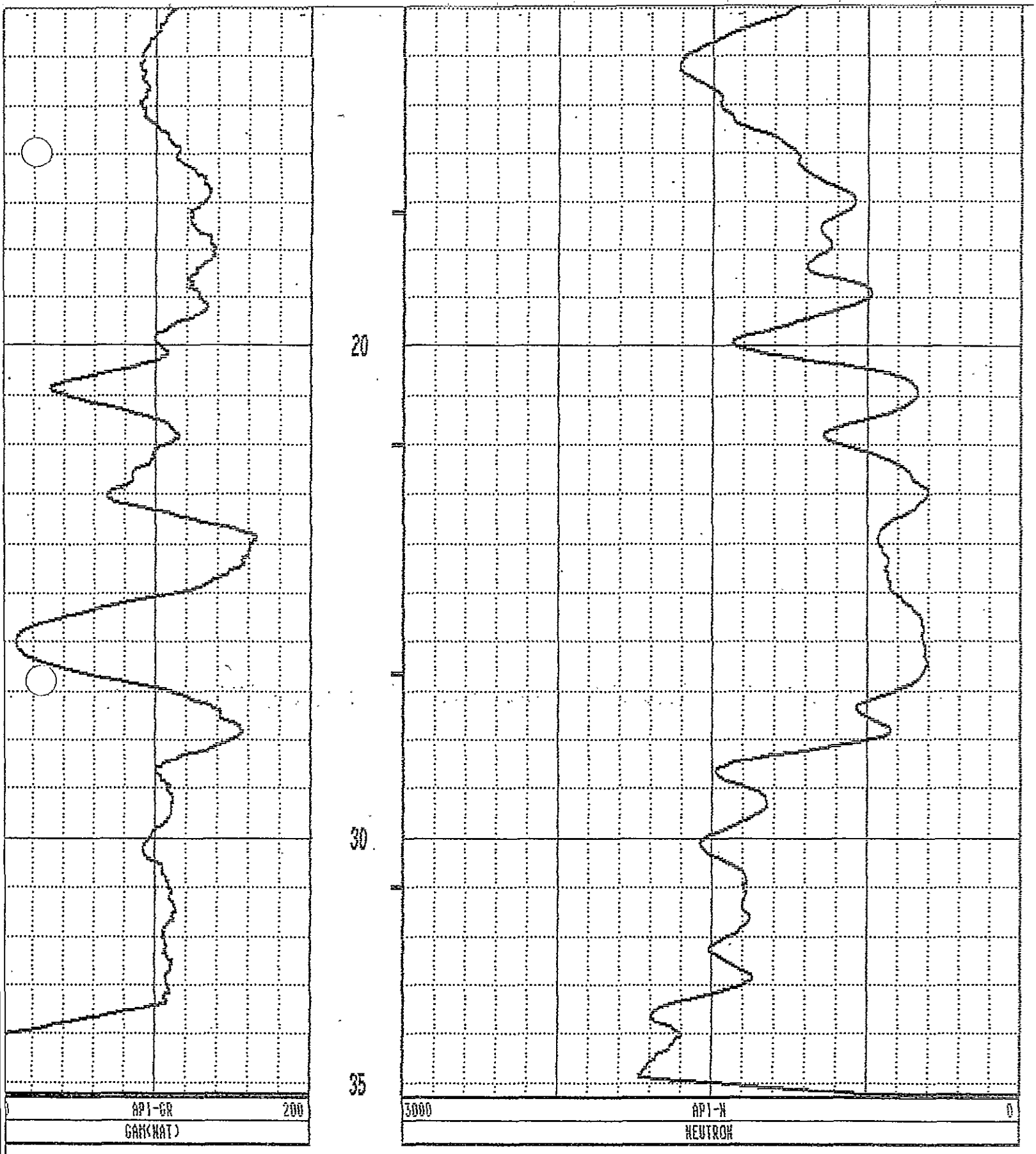
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94018				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/26/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 35.30	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.94	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

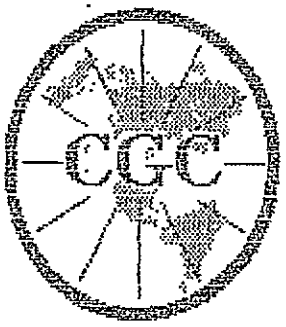
OPEN HOLE

OTHER SERVICES:
9030
9055

GAM(GAT)
0
API-GR
200
NEUTRON
3000
API-N
0
0
10



WRH-94018 03/26/94 255



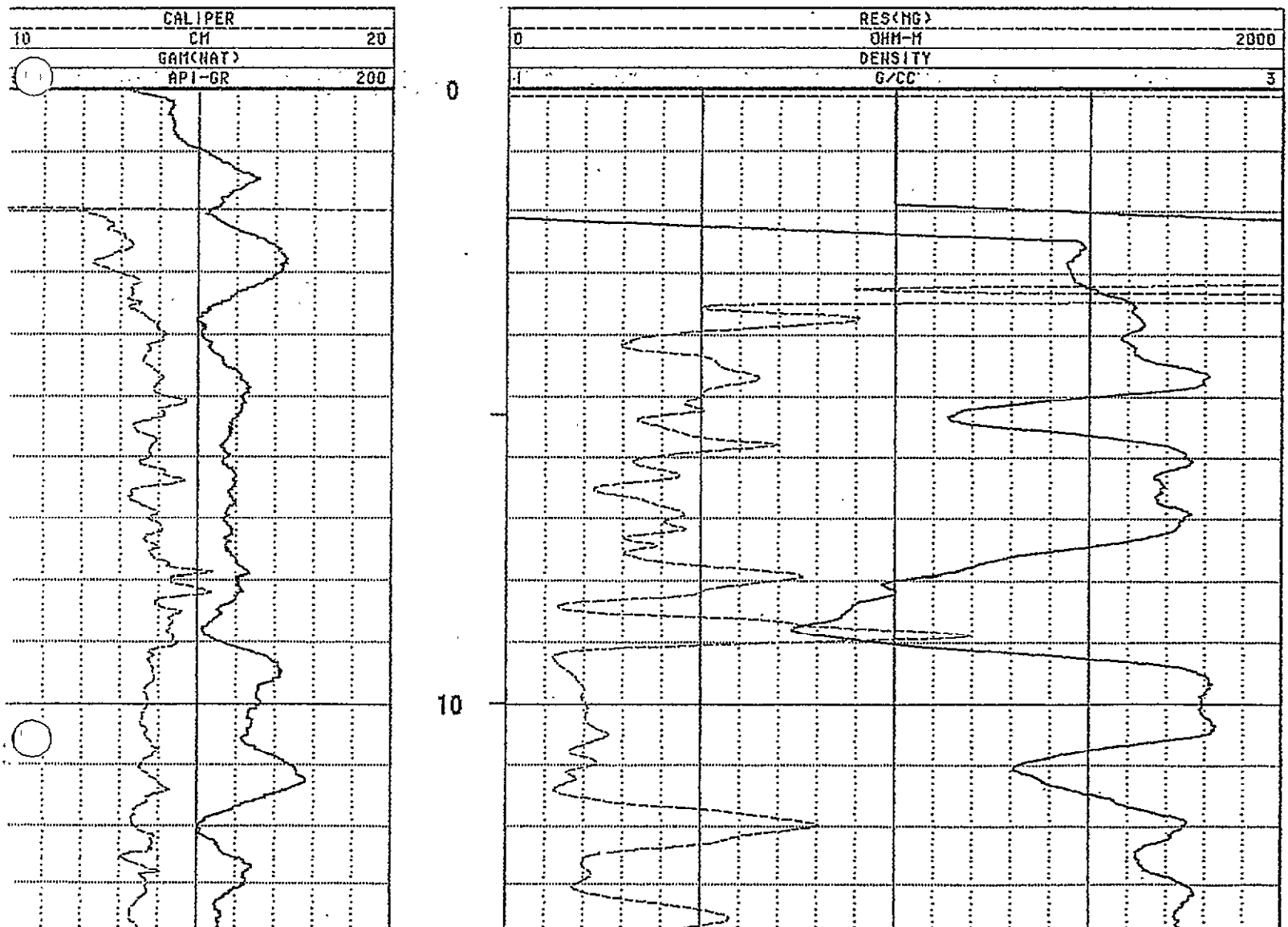
Century GEOPHYSICAL CORP.

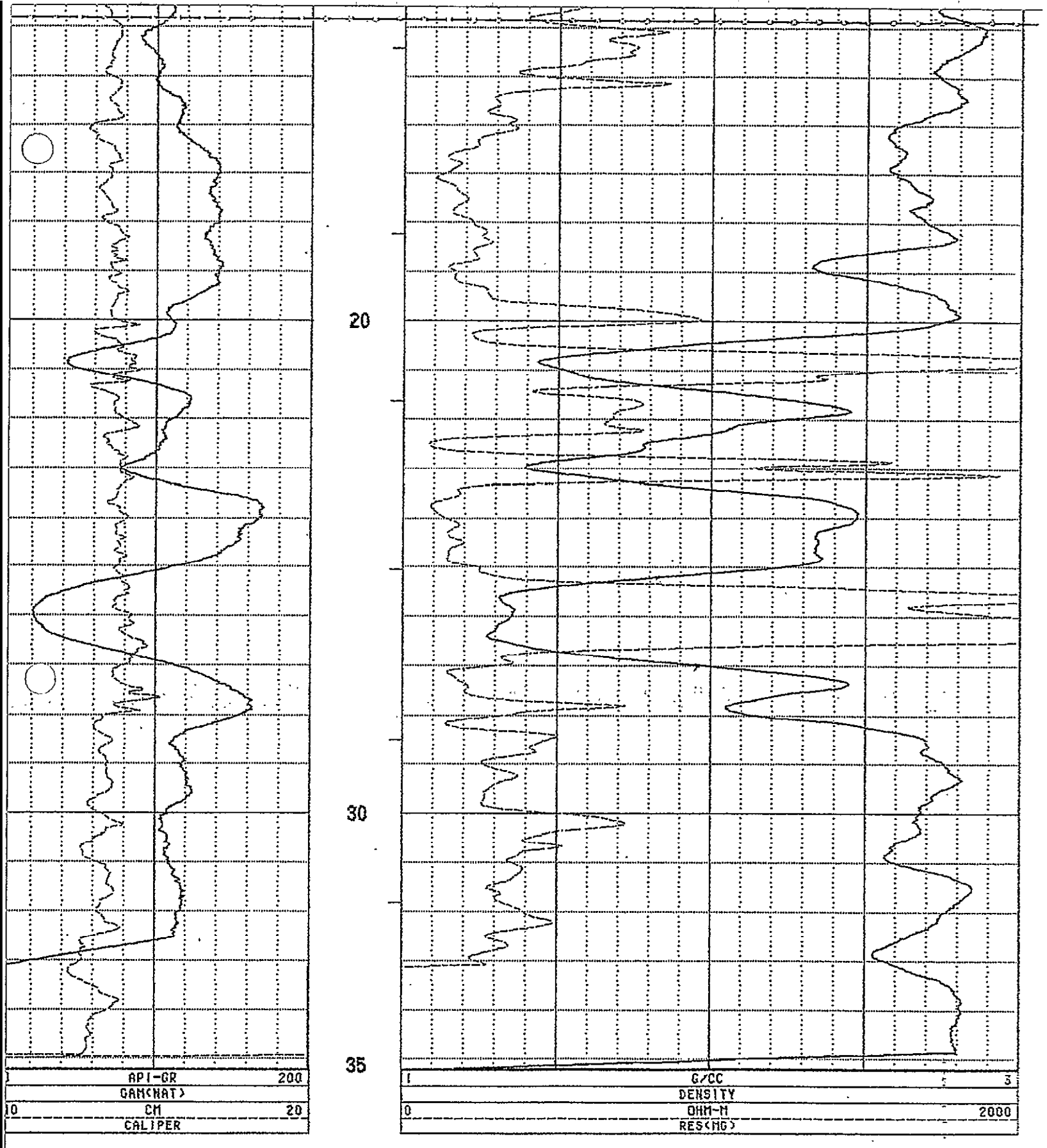
GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94018			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/26/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 40	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 35.24	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.04	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :

OPEN HOLE


CALIPER
10
CM
20
GAM(HAT)
API-GR
200
RES(HG)
0
OHM-M
2000
DENSITY
G/CC
3
0
10



WRH-94018 03/26/94 440

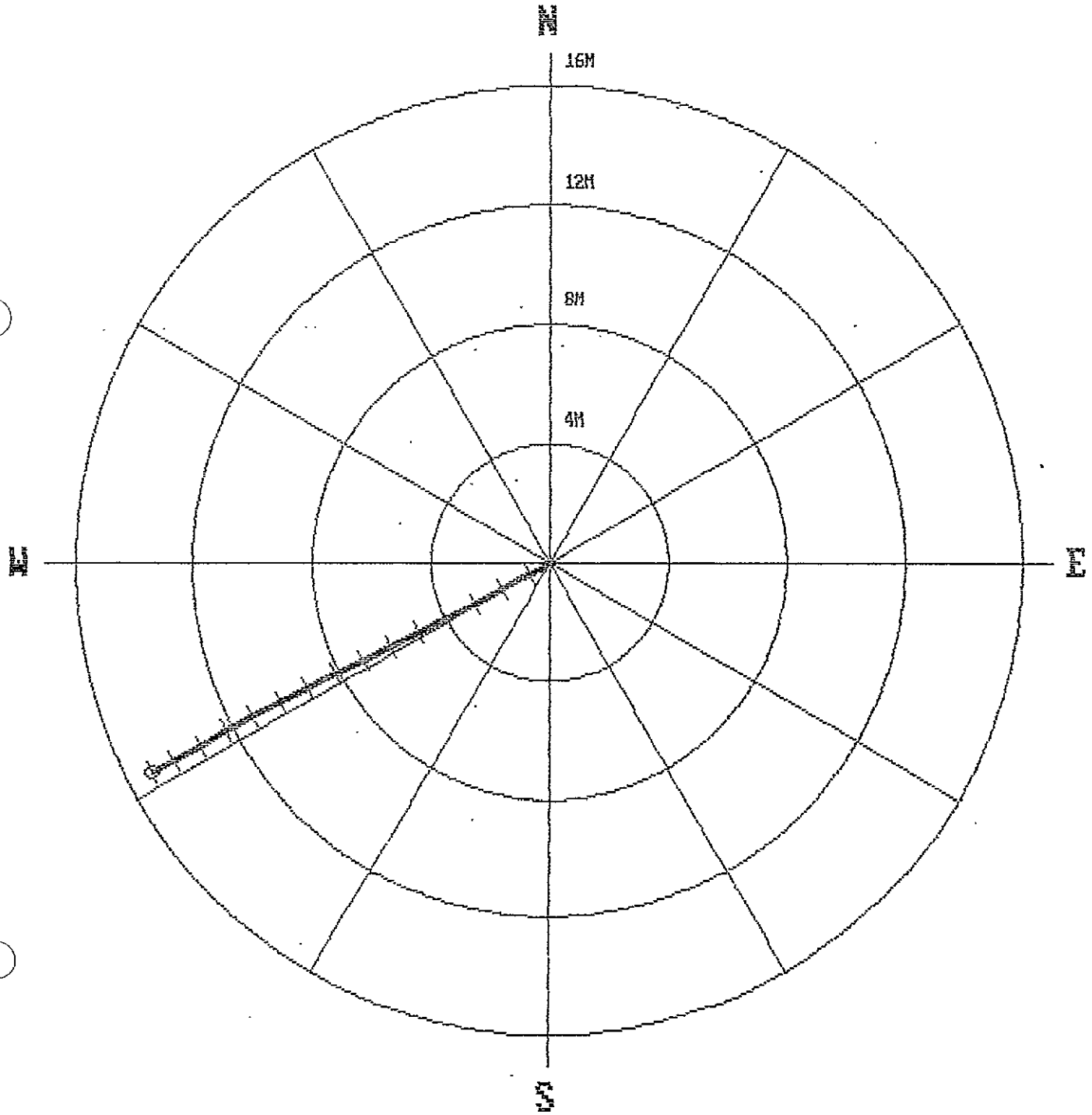
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94018
DATE OF LOG: 03/26/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 2 M/CM
TRUE DEPTH: 31.61 M
AZIMUTH: 242.1
DISTANCE: 15.1 M
+ = 2 M INCR
○ = BOTTOM OF HOLE



* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

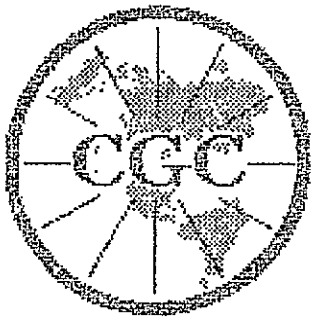
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94018
DATE OF LOG : 03/26/94
PROBE : 9055A 255
DEPTH UNITS : METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.5	2.50	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.71	-0.56	-1.00	1.2	240.8	27.5	244.6
10.0	9.13	-1.67	-3.06	3.5	241.4	27.6	250.8
15.0	13.55	-2.72	-5.14	5.8	242.1	27.6	241.6
20.0	17.99	-3.75	-7.20	8.1	242.4	27.3	243.5
25.0	22.43	-4.81	-9.23	10.4	242.5	27.4	248.0
30.0	26.89	-5.89	-11.21	12.7	242.3	26.7	244.7
35.0	31.32	-7.00	-13.21	15.0	242.1	27.6	242.4
35.3	31.61	-7.07	-13.34	15.1	242.1	27.7	241.5
40.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.16

WRH 94019



Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

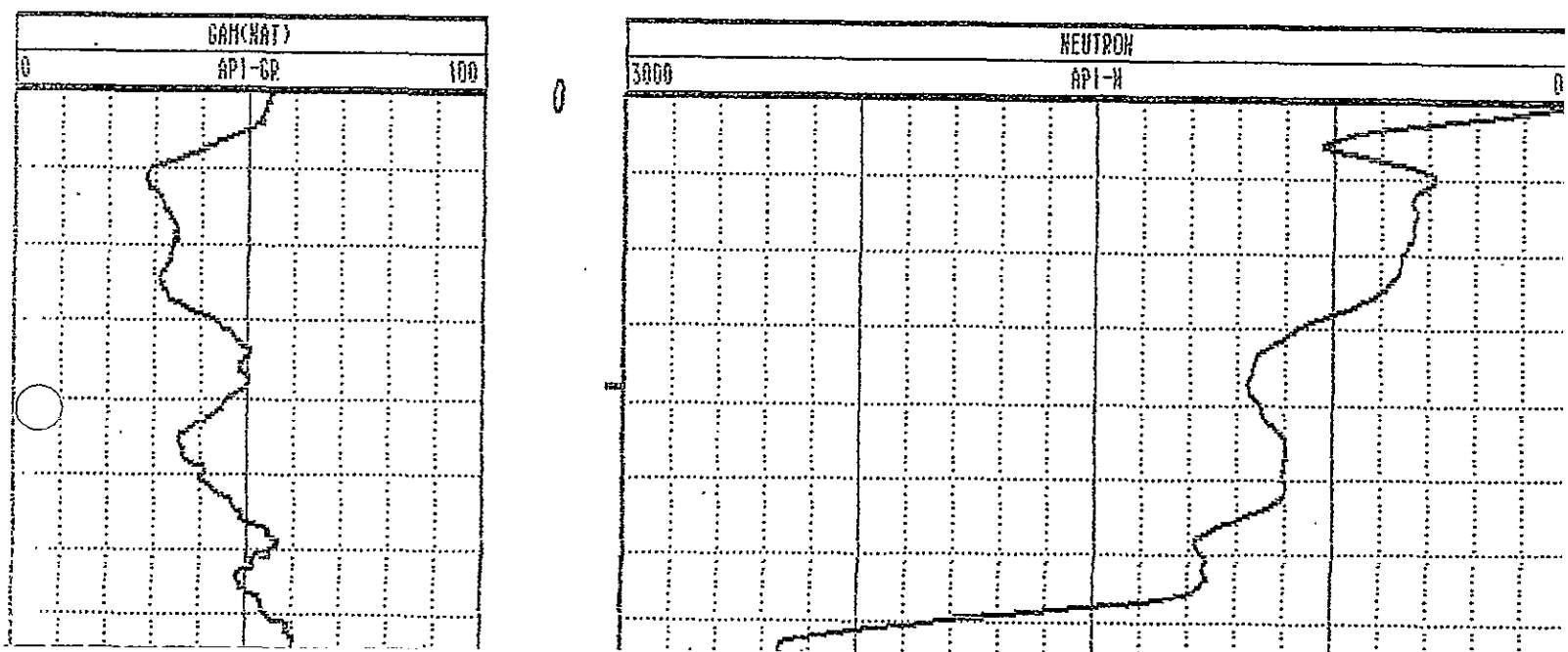
MPANY	: GLOBALTEX						
L	: WRH-94019						
ATION/FIELD	: WILLOW CREEK						
UNTY	: CHETWYND						
TATE	: B.C.						
ECTION	:	TOWNSHIP	:		RANGE	:	
ATE	: 03/27/94	PERMANENT DATUM	:	GL	ELEVATIONS		
EPTH DRILLER	: 100	ELEV. PERM. DATUM	:		KB	:	
OG BOTTOM	: 83.00	LOG MEASURED FROM	:	GL	DF	:	
OG TOP	: -0.70	DRL MEASURED FROM	:	GL	GL	:	
ASING DRILLER	: 22.55	LOGGING UNIT	:	8903			
ASING TYPE	: STEEL	FIELD OFFICE	:	CALGARY			
ASING THICKNESS	: 0.12	RECORDED BY	:	T. LEWYCKYJ			
T SIZE	: 13.5	BOREHOLE FLUID	:	WATER	FILE	:	ORIGINAL
GNETIC DECL.	: 24.5	RM	:		TYPE	:	9055A
TRIX DENSITY	: 2.65	RM TEMPERATURE	:		LOG	:	6
UID DENSITY	: 1.00	MATRIX DELTA T	:	173	PLOT	:	G.TEX 0
UTRON MATRIX	: SANDSTONE	FLUID DELTA T	:	690	THRESH	:	30000
MARKS	:						
HROUGH RODS							

OTHER SERVICES:
9030
9055

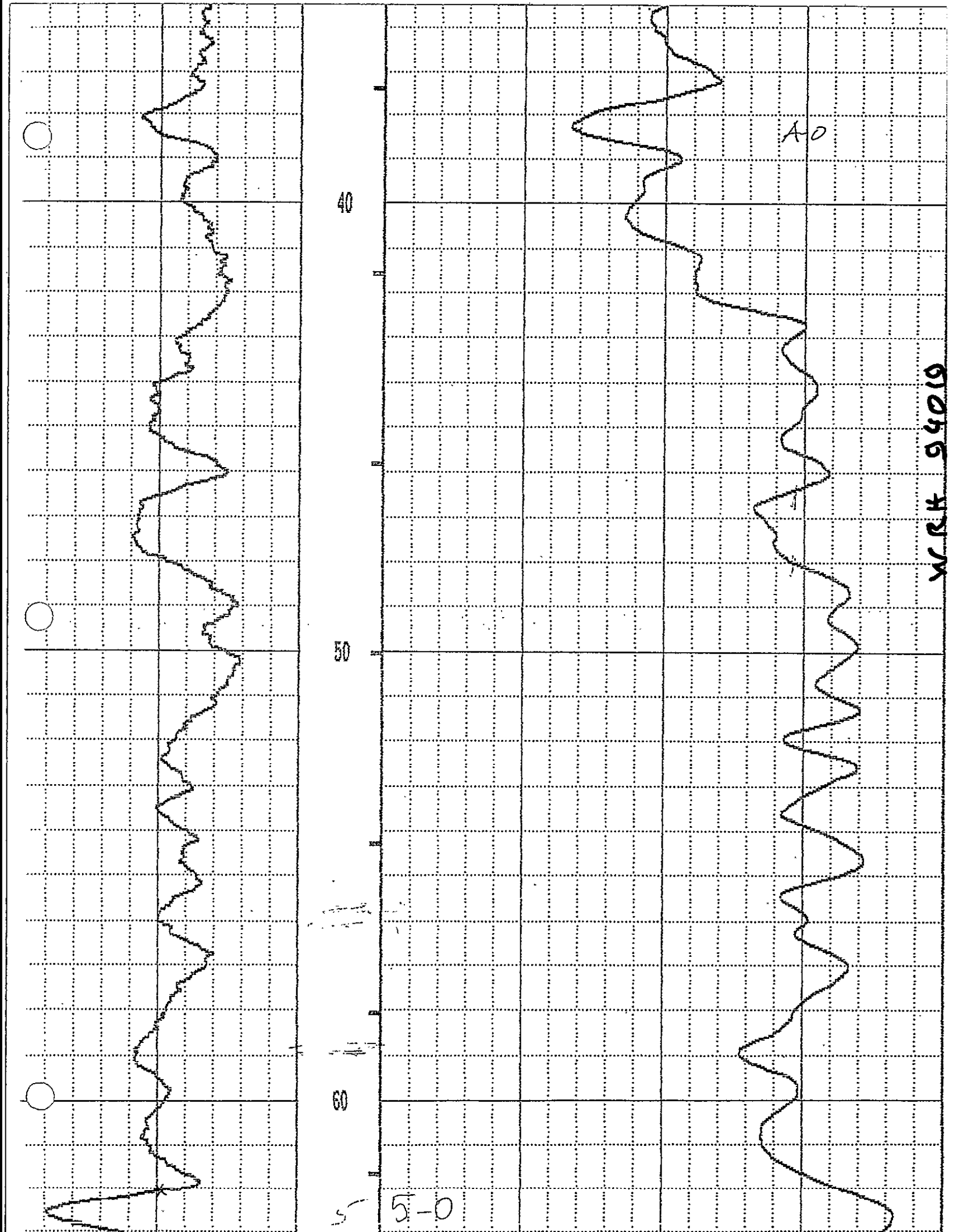
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

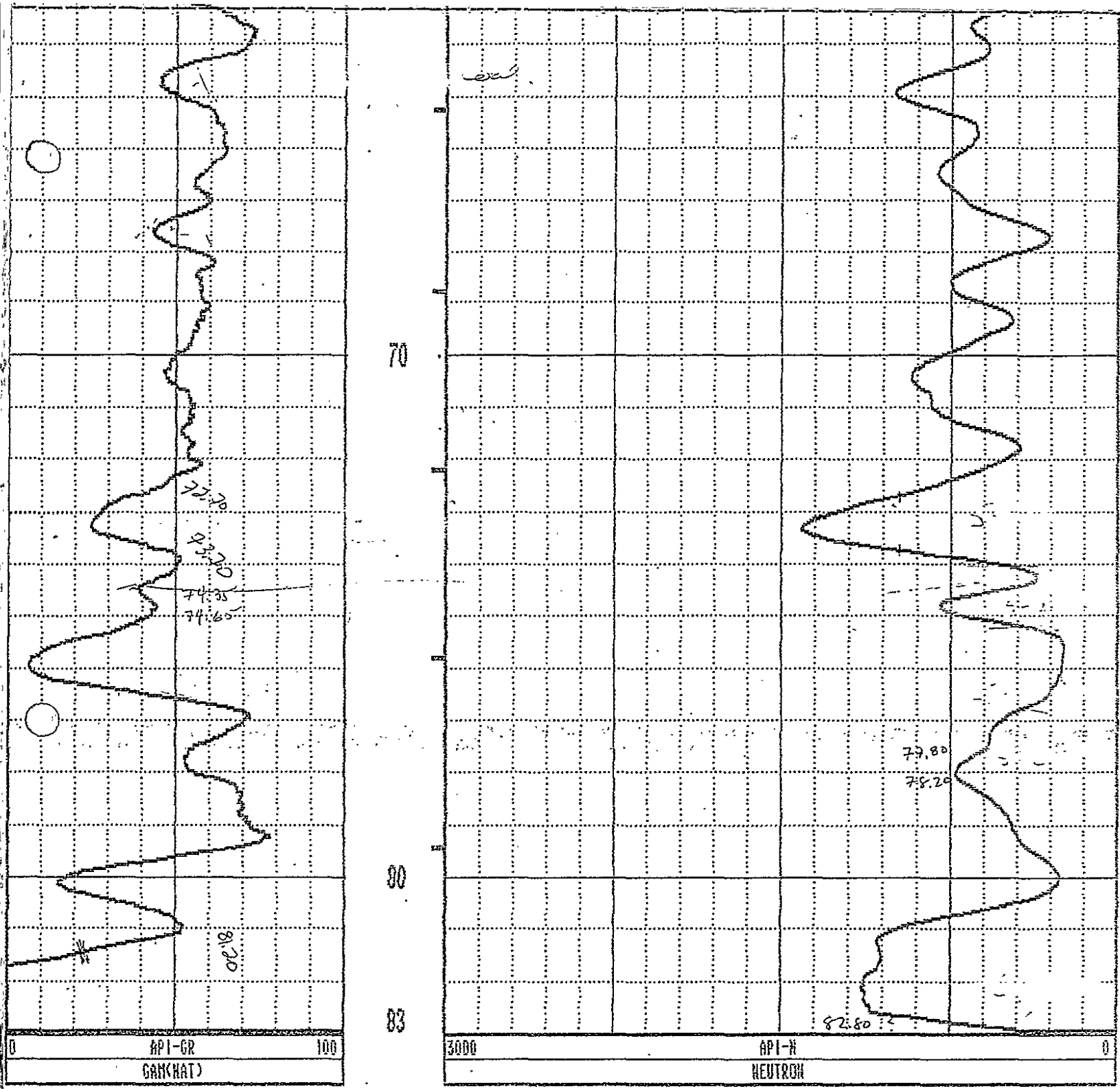
WRH 94019

Dry hole



10
20
30
A-3
A-2
WRR 94013


40
50
60
A-O
WRH 94019
5-0

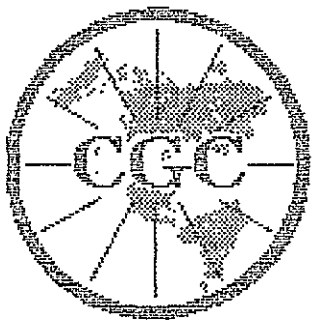


WRH-94019 03/27/94 255

Dry hole

Appendix 3.7

WRH 94020



Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94020			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/29/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 121.9	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 120.79	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.10	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEHYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :
THROUGH RODS

GAM(NAT)

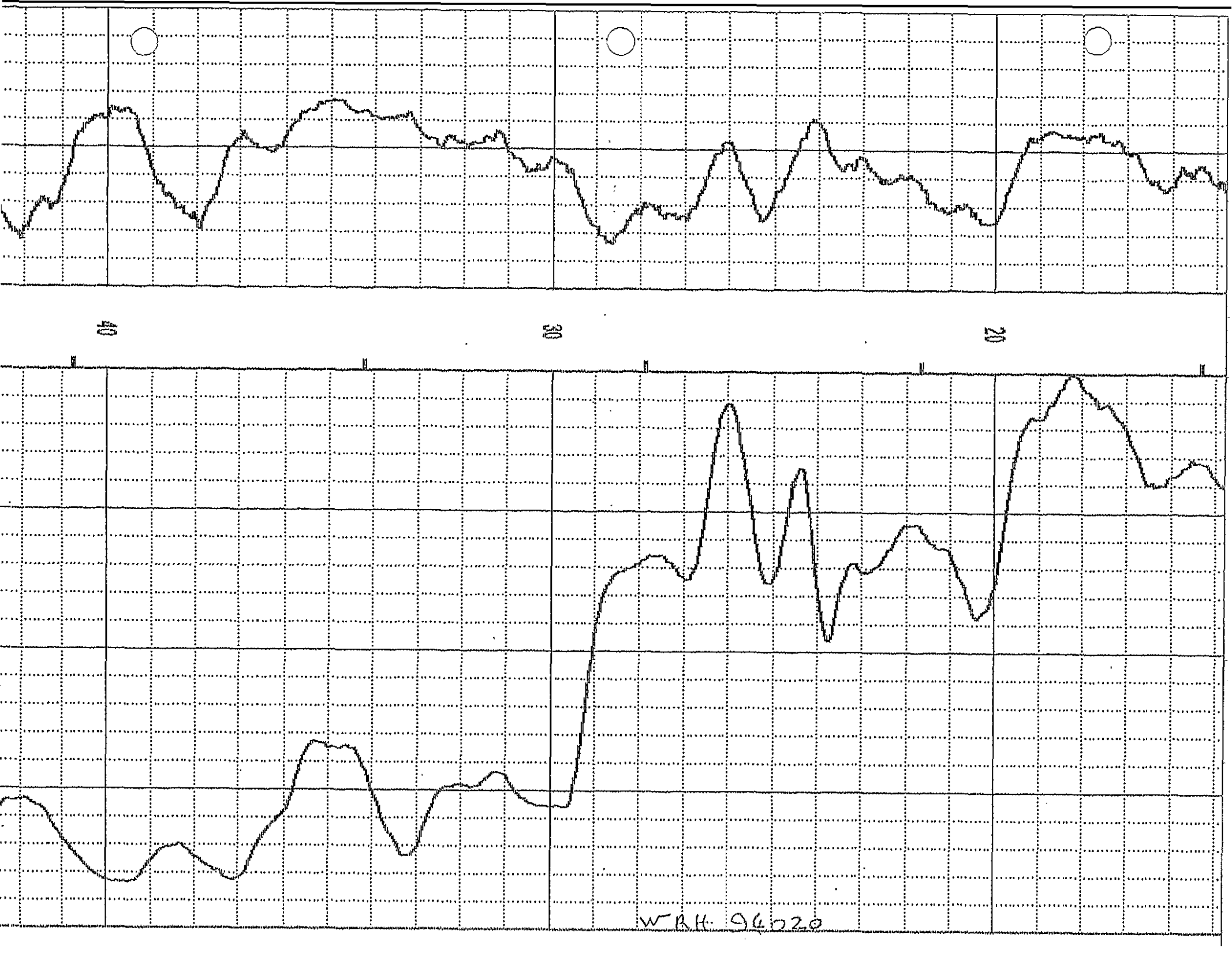
0 API-GR 100

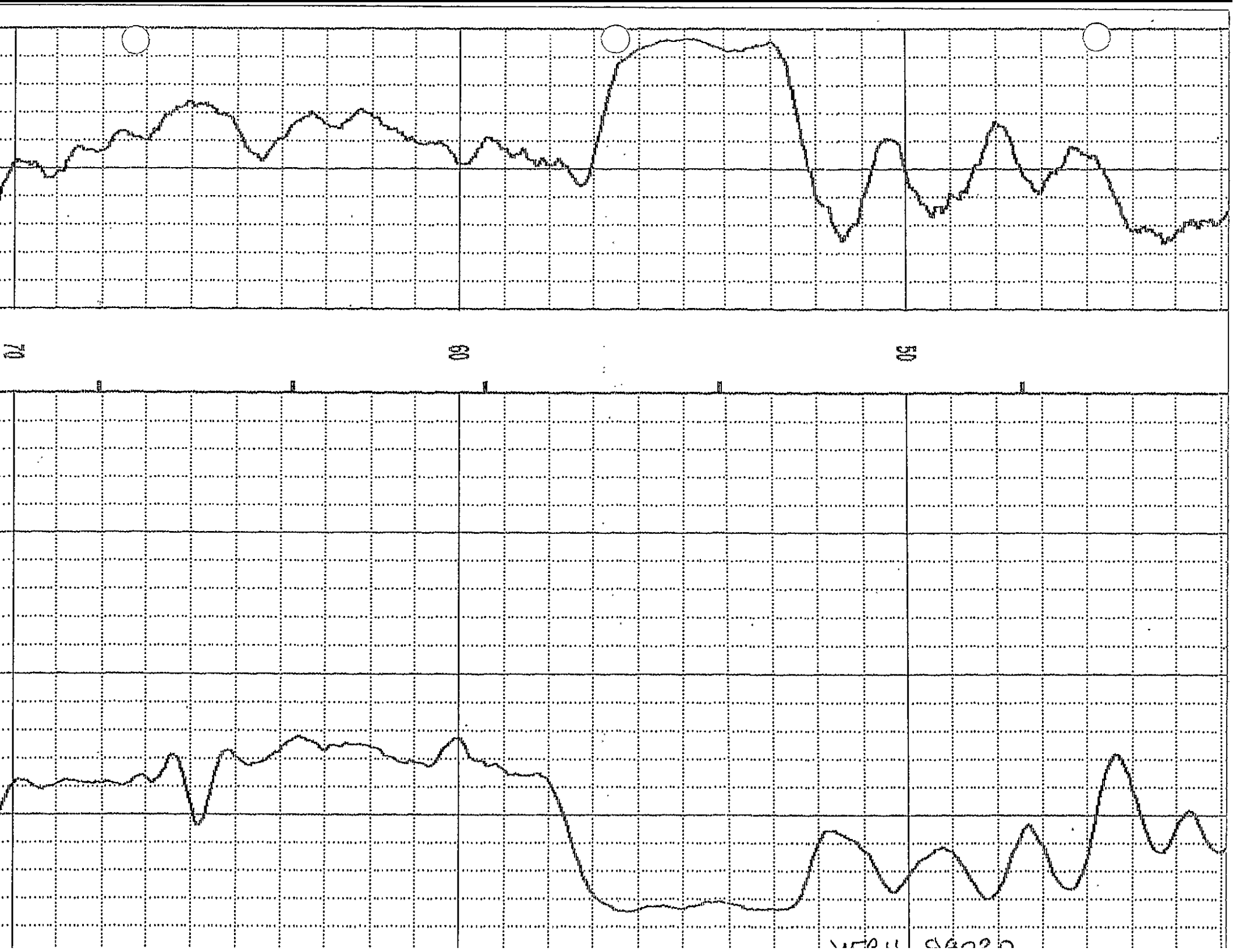
NEUTRON

3000 API-N 0

0

10


aVR
V1
V4
WRH 96020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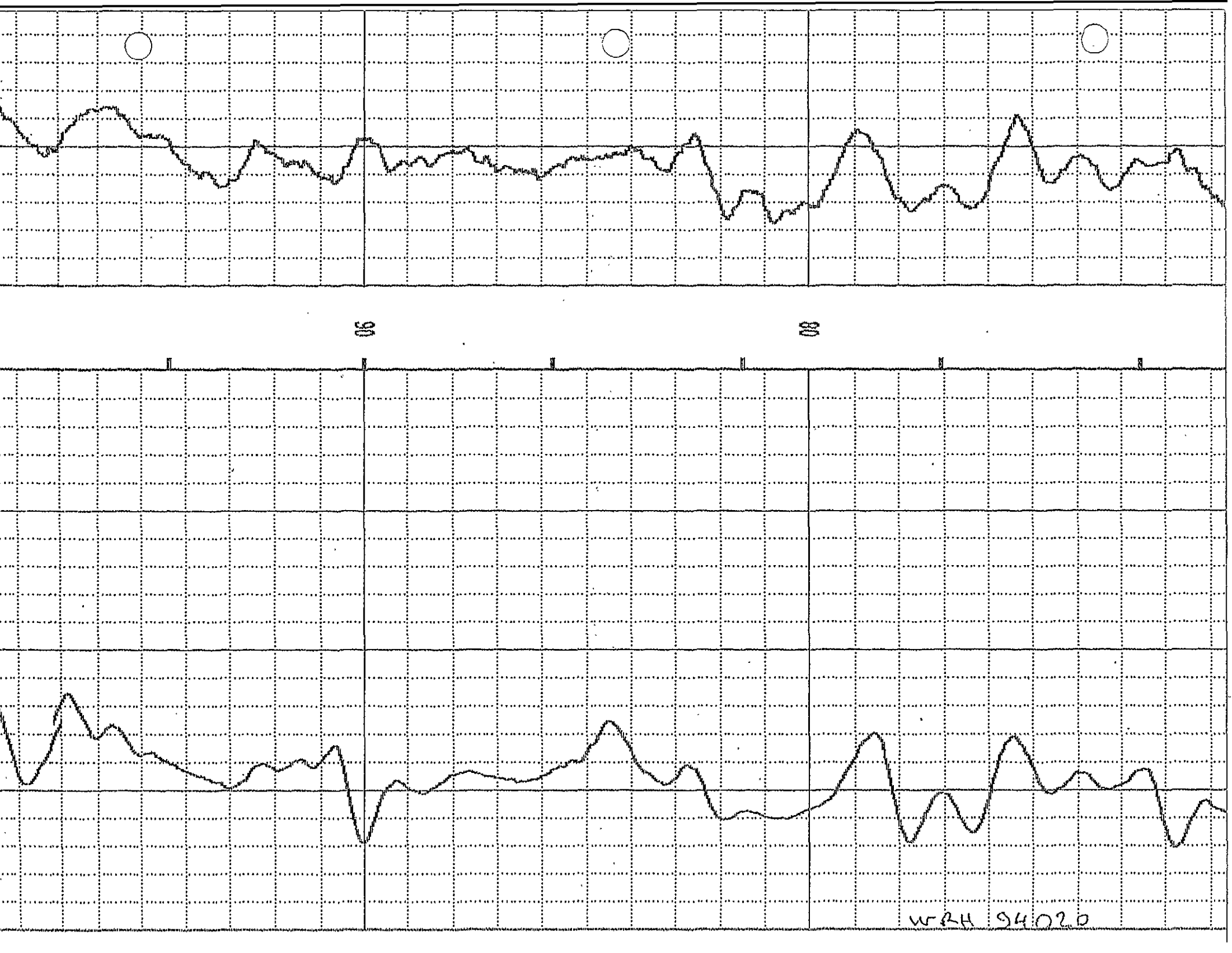
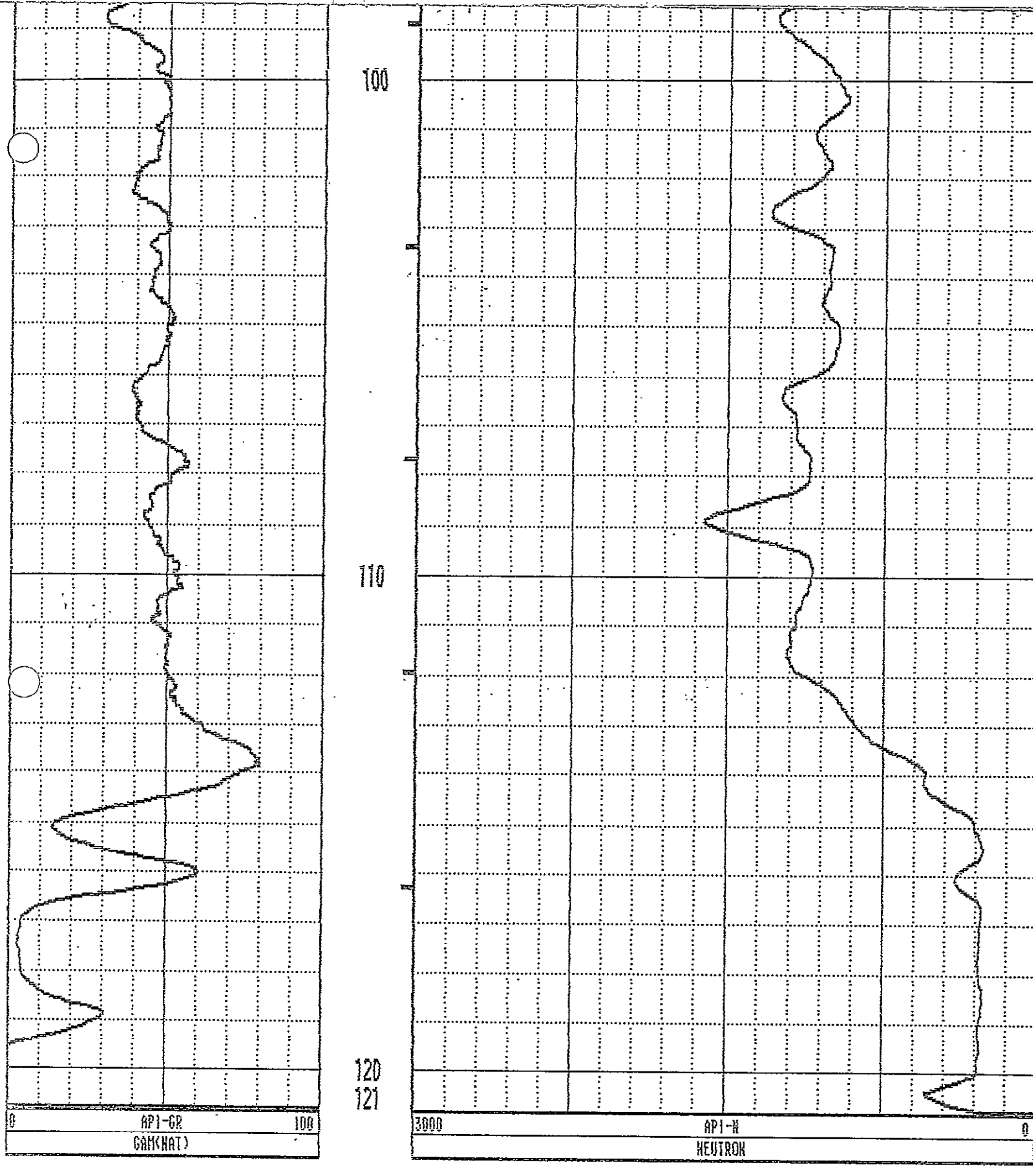
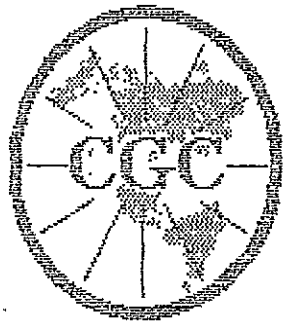
60
50


WRH 94020


100
110
120
121
0
API-GR
100
GAM(NAT)
3000
API-N
0
NEUTRON



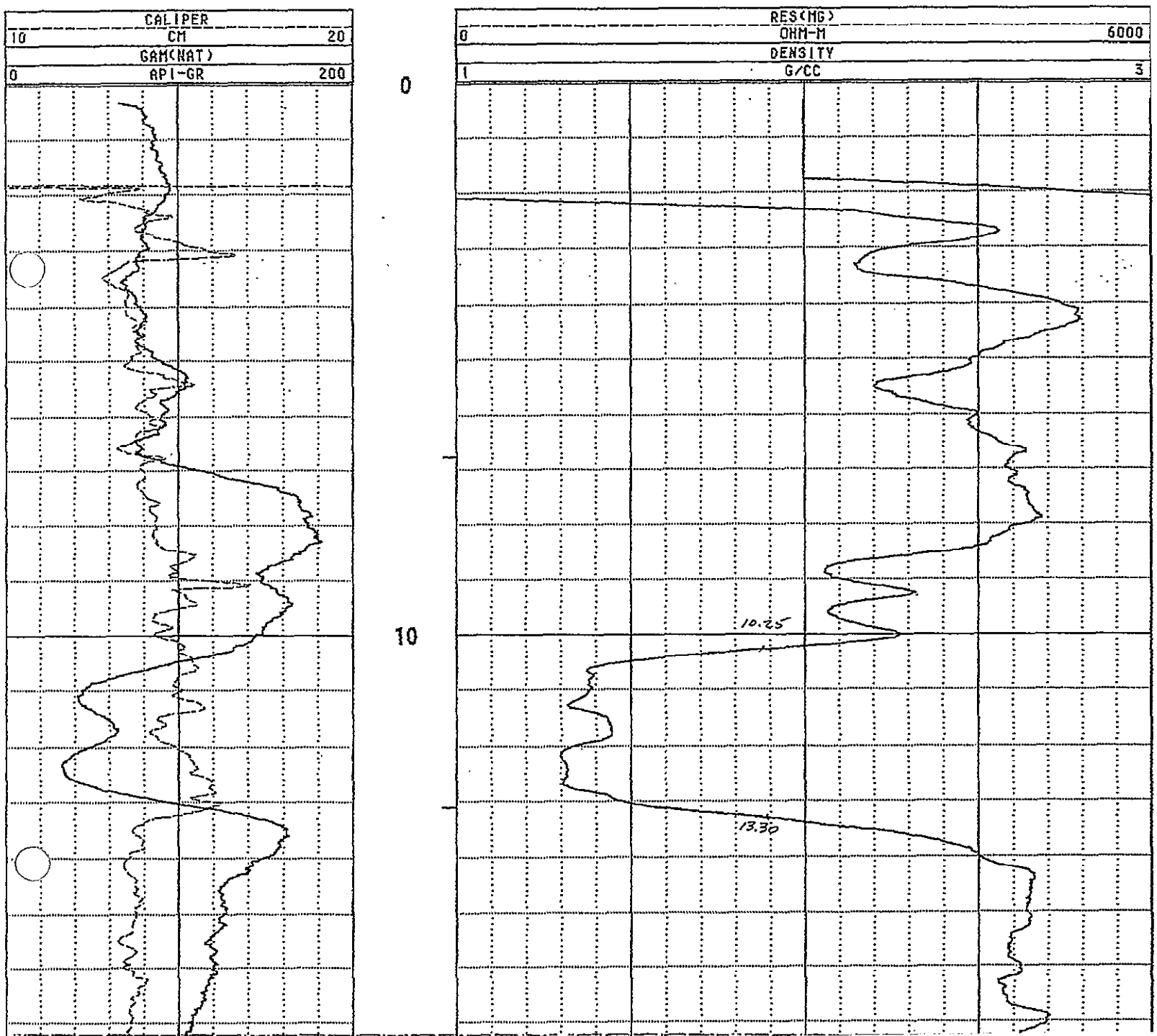
Century GEOPHYSICAL CORP.

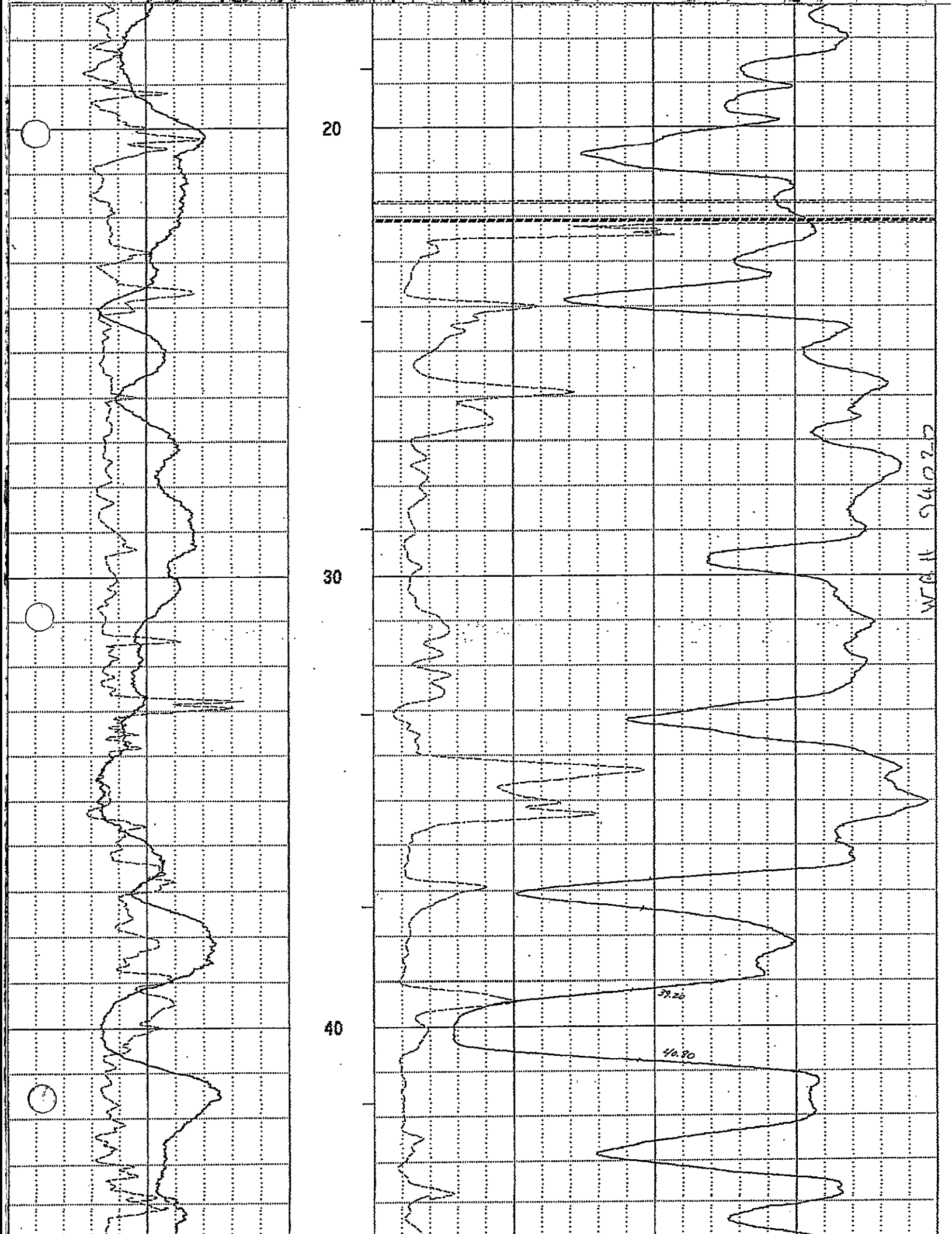
GAMMA-RES-DENSITY

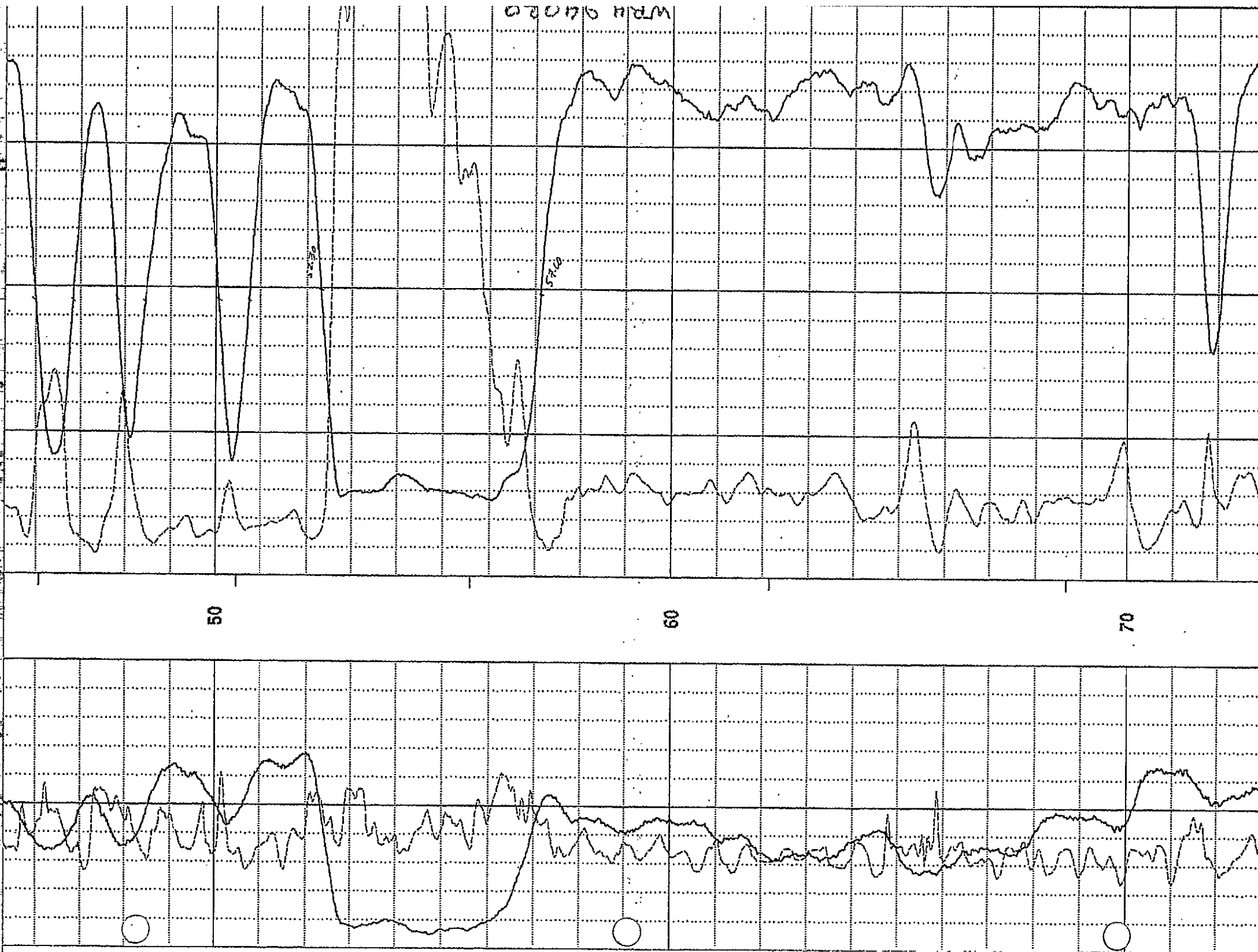
COMPANY	: GLOBALTEX				
WELL	: WRH-94020				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/29/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 121.9	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 122.98	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.34	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

OTHER SERVICES:
9030
9055

REMARKS :
OPEN HOLE


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
RES(MG)
0
OHM-M
6000
DENSITY
1
G/CC
3
0
10
10.25
13.30


20
30
40
39.20
40.80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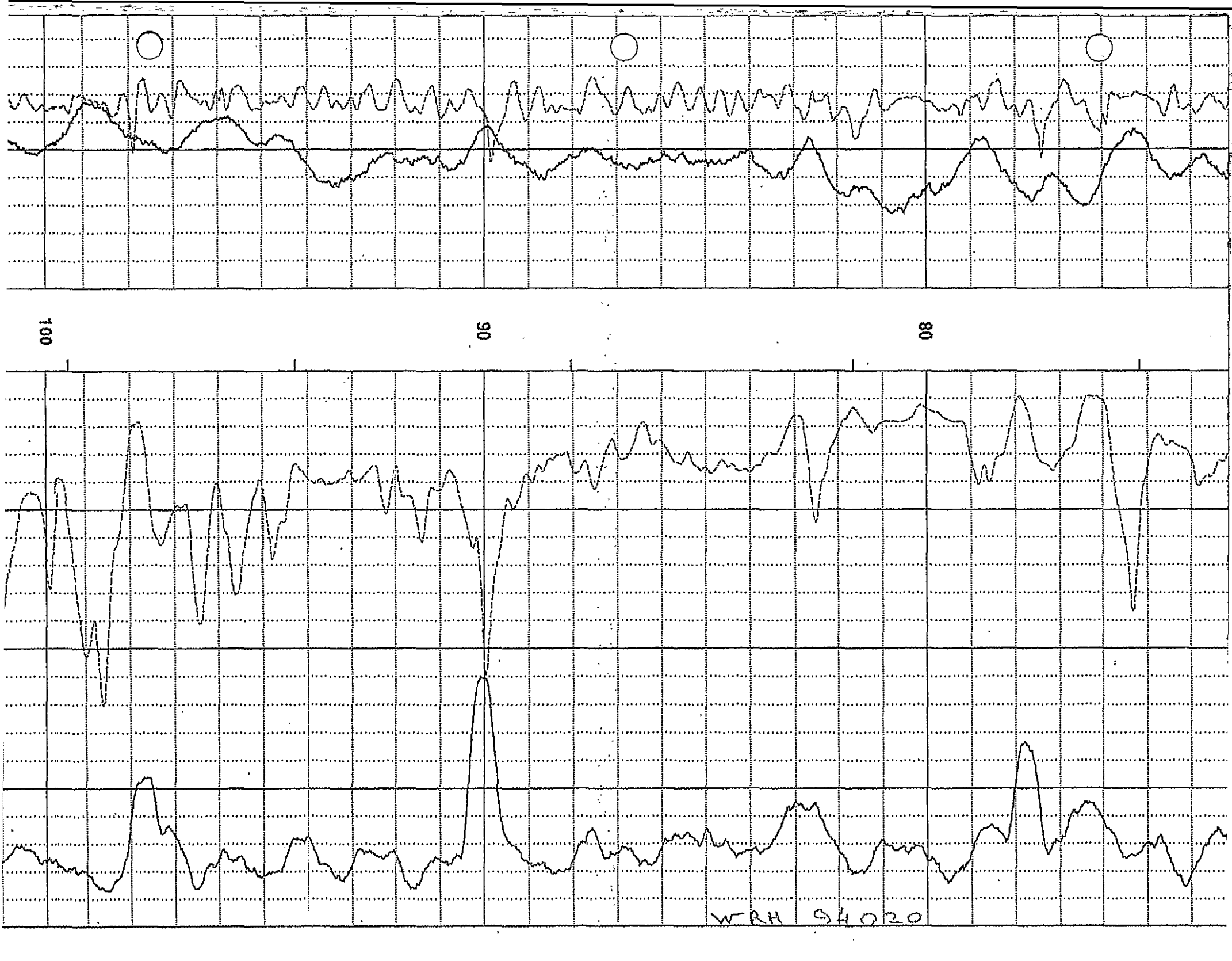
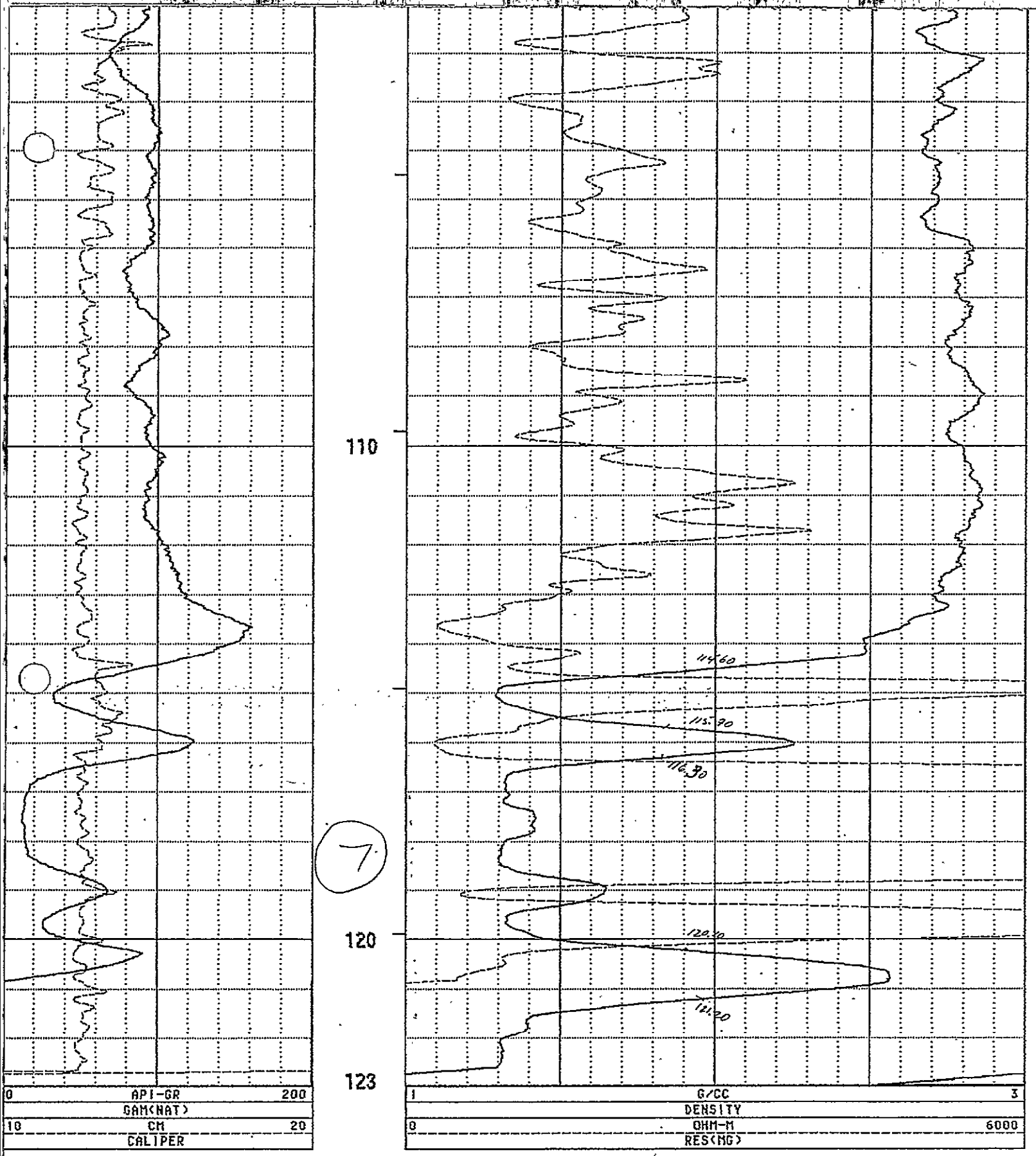

100
90
80
WRH 94020



WRH-94020 03/29/94 440

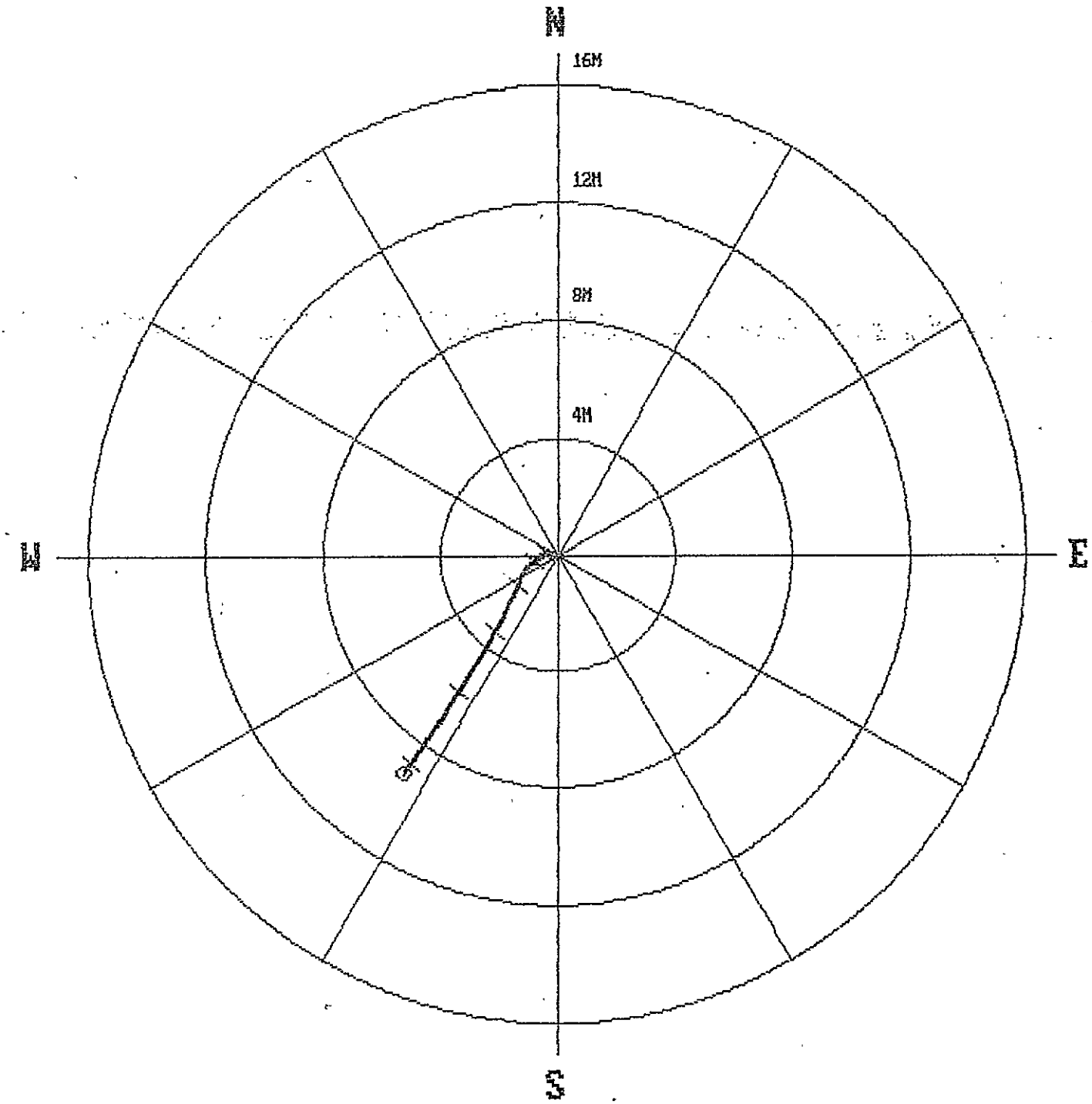
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94020
DATE OF LOG: 03/29/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 2 M/CM
TRUE DEPTH: 122.65 M
AZIMUTH: 214.9
DISTANCE: 9.2 M
+ = 20 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

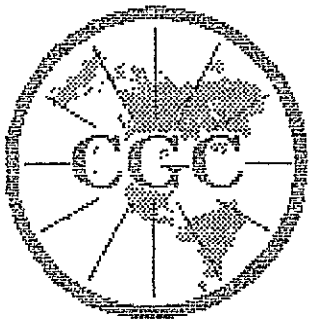
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94020
DATE OF LOG : 03/29/94
PROBE : 9055A . 255
DEPTH UNITS : METERS LOG 5

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
5.0	5.00	0.03	-0.09	0.1	289.6	0.7	298.3
10.0	10.00	0.07	-0.19	0.2	291.1	1.0	293.9
15.0	15.00	0.08	-0.28	0.3	285.9	1.2	270.5
20.0	19.99	0.07	-0.38	0.4	280.8	1.2	266.0
25.0	24.99	0.04	-0.47	0.5	275.1	1.3	247.6
30.0	29.99	-0.01	-0.57	0.6	268.7	1.3	241.0
35.0	34.99	-0.08	-0.68	0.7	263.5	1.1	212.7
40.0	39.99	-0.17	-0.78	0.8	257.9	1.7	230.3
45.0	44.99	-0.28	-0.90	0.9	252.6	2.4	225.7
50.0	49.98	-0.46	-1.06	1.2	246.8	3.0	225.3
55.0	54.97	-0.69	-1.21	1.4	240.3	3.2	226.7
60.0	59.96	-1.00	-1.35	1.7	233.6	4.6	187.0
65.0	64.94	-1.35	-1.51	2.0	228.2	5.2	201.6
70.0	69.93	-1.73	-1.69	2.4	224.3	5.0	207.8
75.0	74.90	-2.15	-1.89	2.9	221.4	5.4	219.0
80.0	79.88	-2.59	-2.13	3.4	219.5	5.9	209.1
85.0	84.85	-3.06	-2.40	3.9	218.1	6.3	208.0
90.0	89.82	-3.54	-2.68	4.4	217.1	7.0	206.0
95.0	94.78	-4.07	-2.99	5.1	216.3	7.1	213.9
100.0	99.73	-4.65	-3.34	5.7	215.6	8.0	202.5
105.0	104.68	-5.25	-3.70	6.4	215.2	8.2	209.1
110.0	109.63	-5.86	-4.09	7.1	215.0	8.3	212.2
115.0	114.57	-6.46	-4.50	7.9	214.9	8.4	209.3
120.0	119.51	-7.10	-4.94	8.6	214.9	8.9	215.6
123.2	122.65	-7.51	-5.23	9.2	214.9	9.4	222.1
125.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.18

WRH 94022



Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94022				
LOCATION/FIELD	: MILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/31/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 100	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 94.84	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 1.17	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :
OPEN HOLE

OTHER SERVICES:
9030
9055

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GAM(RAT)

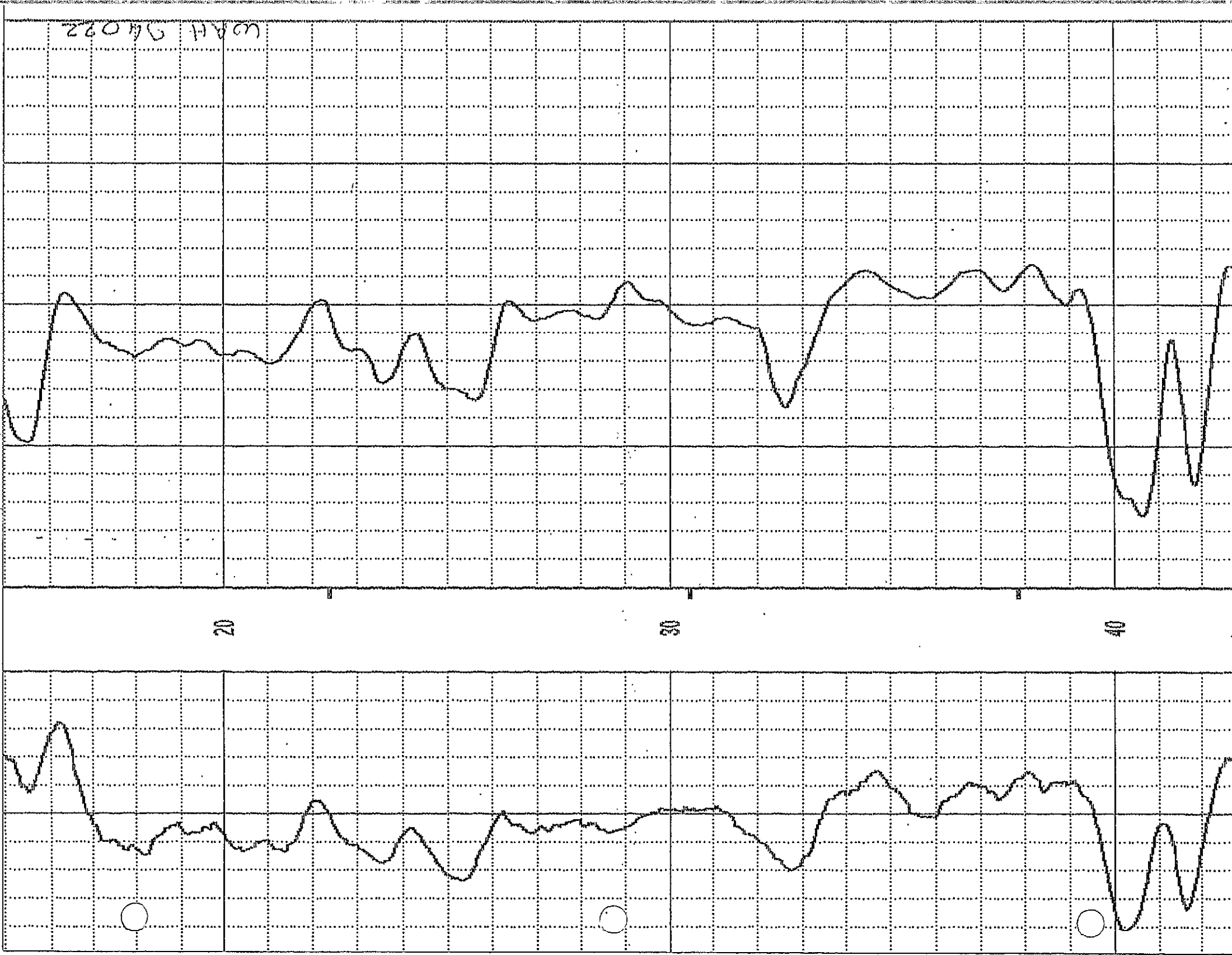
0 API-GR 250

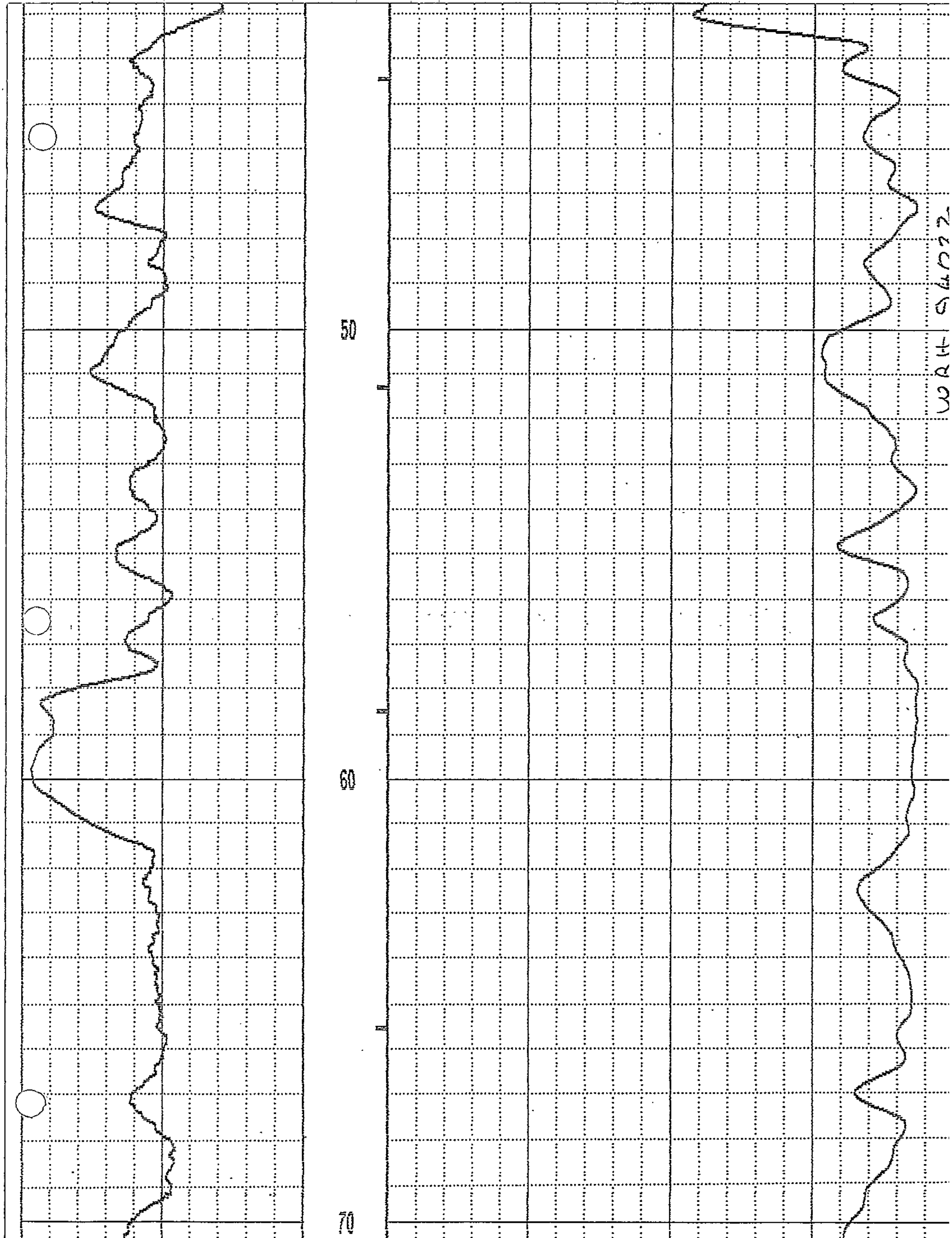
NEUTRON

8000 API-N 0

0

10


20
30
40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60
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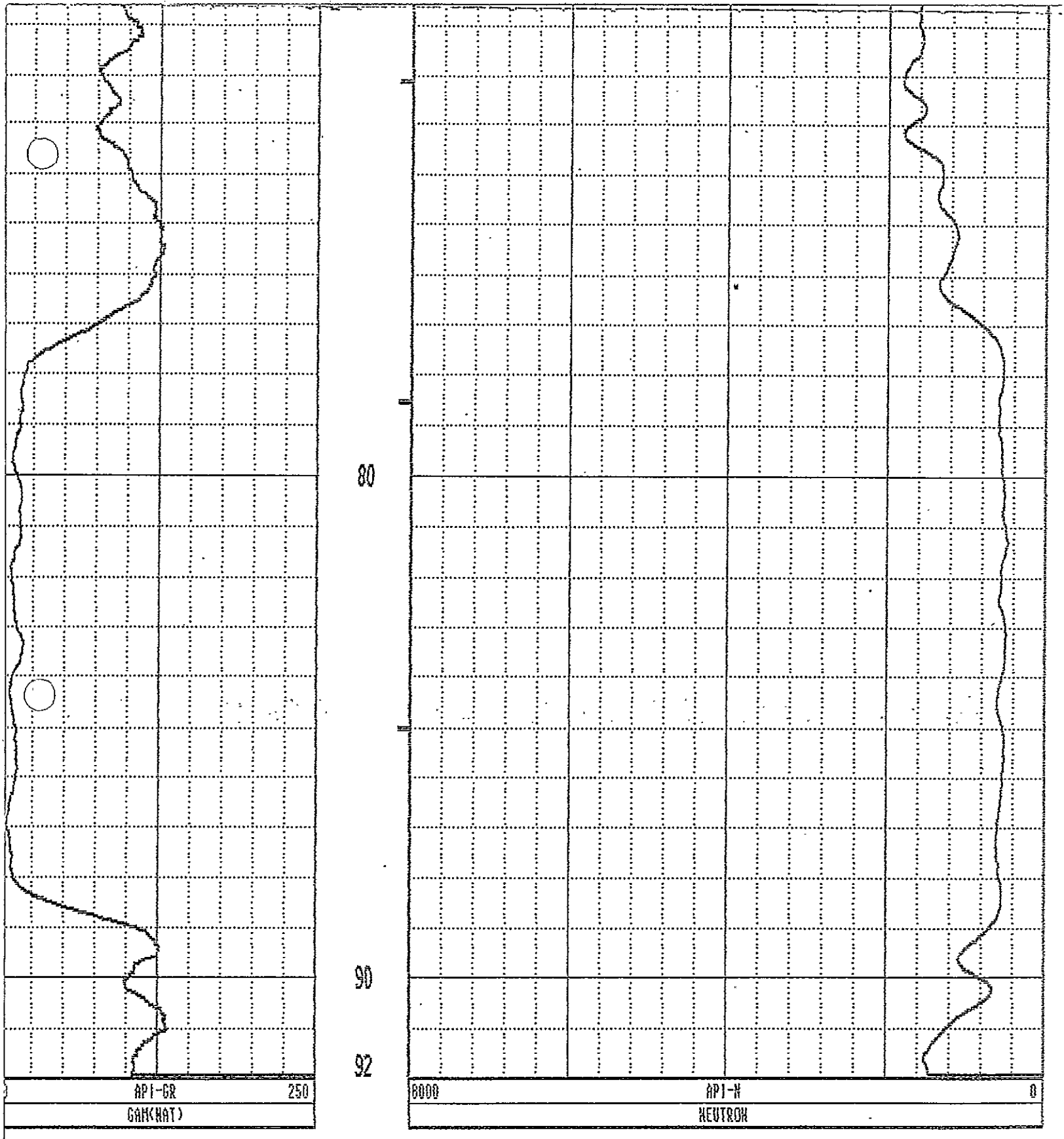
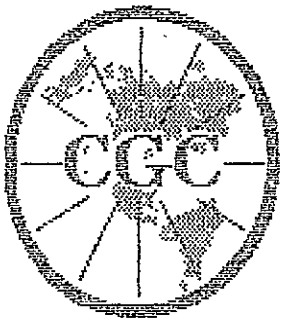


WRH-94022 03/31/94 255



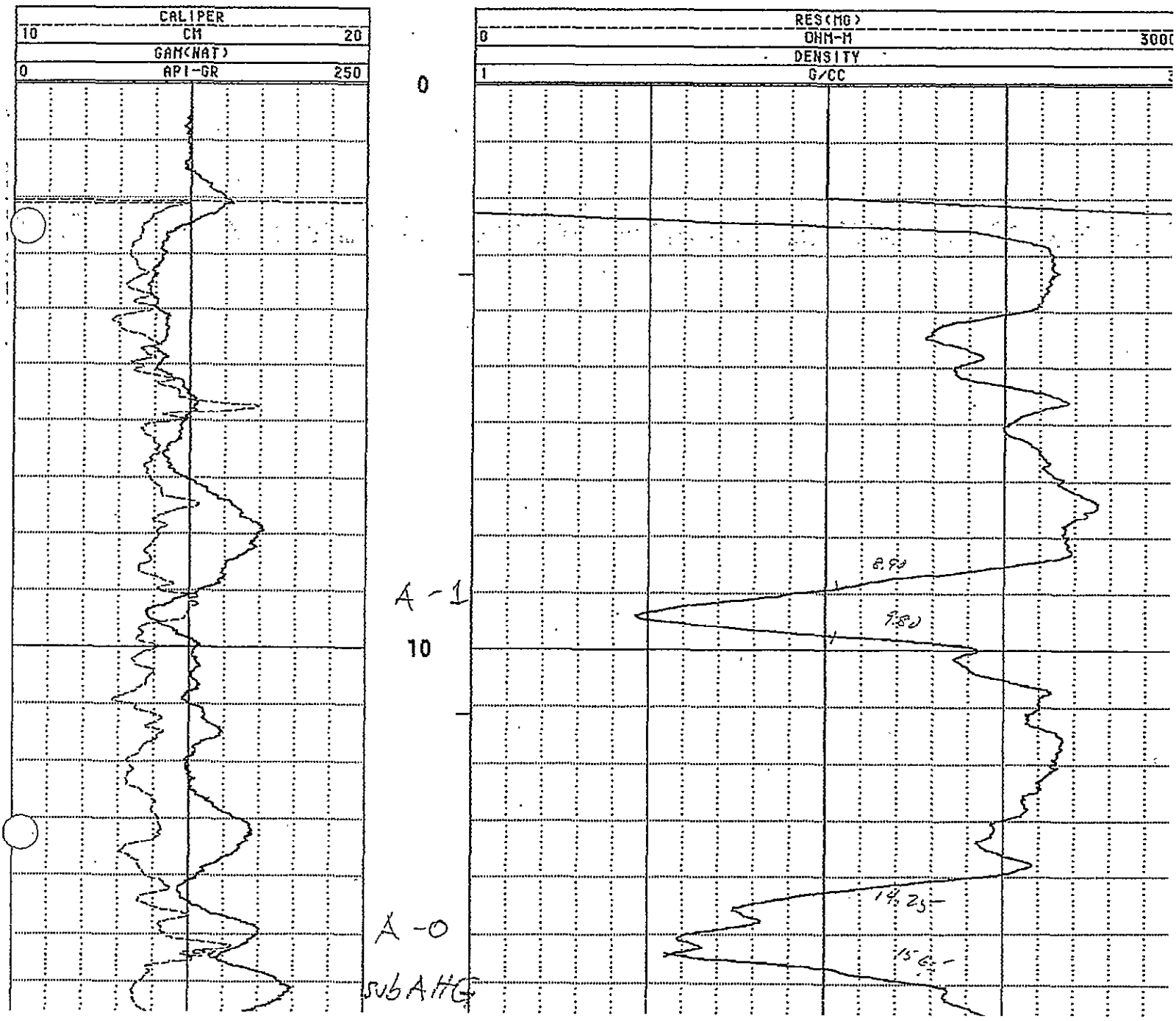
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94022				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/31/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 100	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 94.84	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.44	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

OTHER SERVICES:
9030
9055

REMARKS :
OPEN HOLE


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
250
RES(MG)
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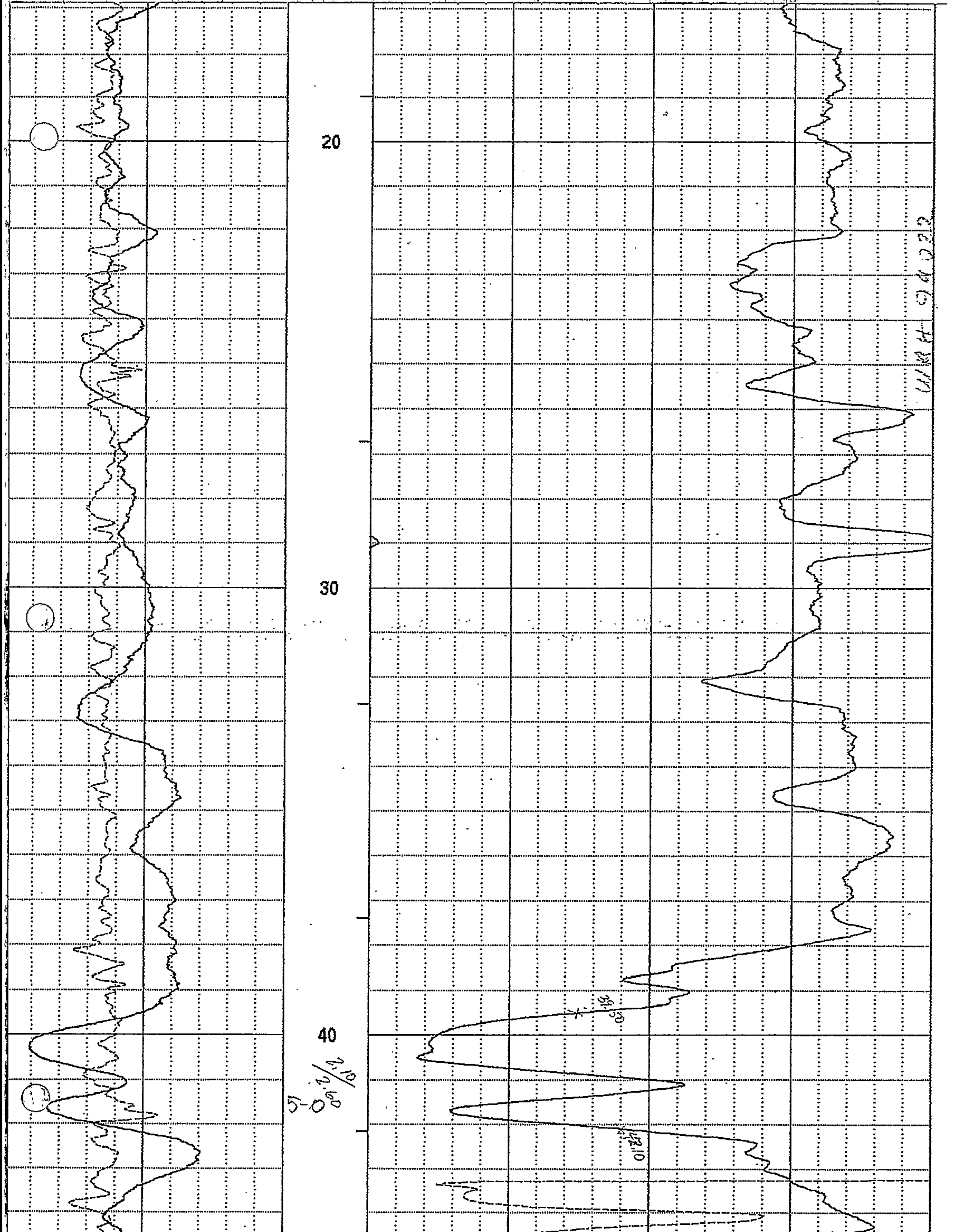
OHM-M
3000
DENSITY
1
G/CC
0
A-1
10
A-0
SUBAHG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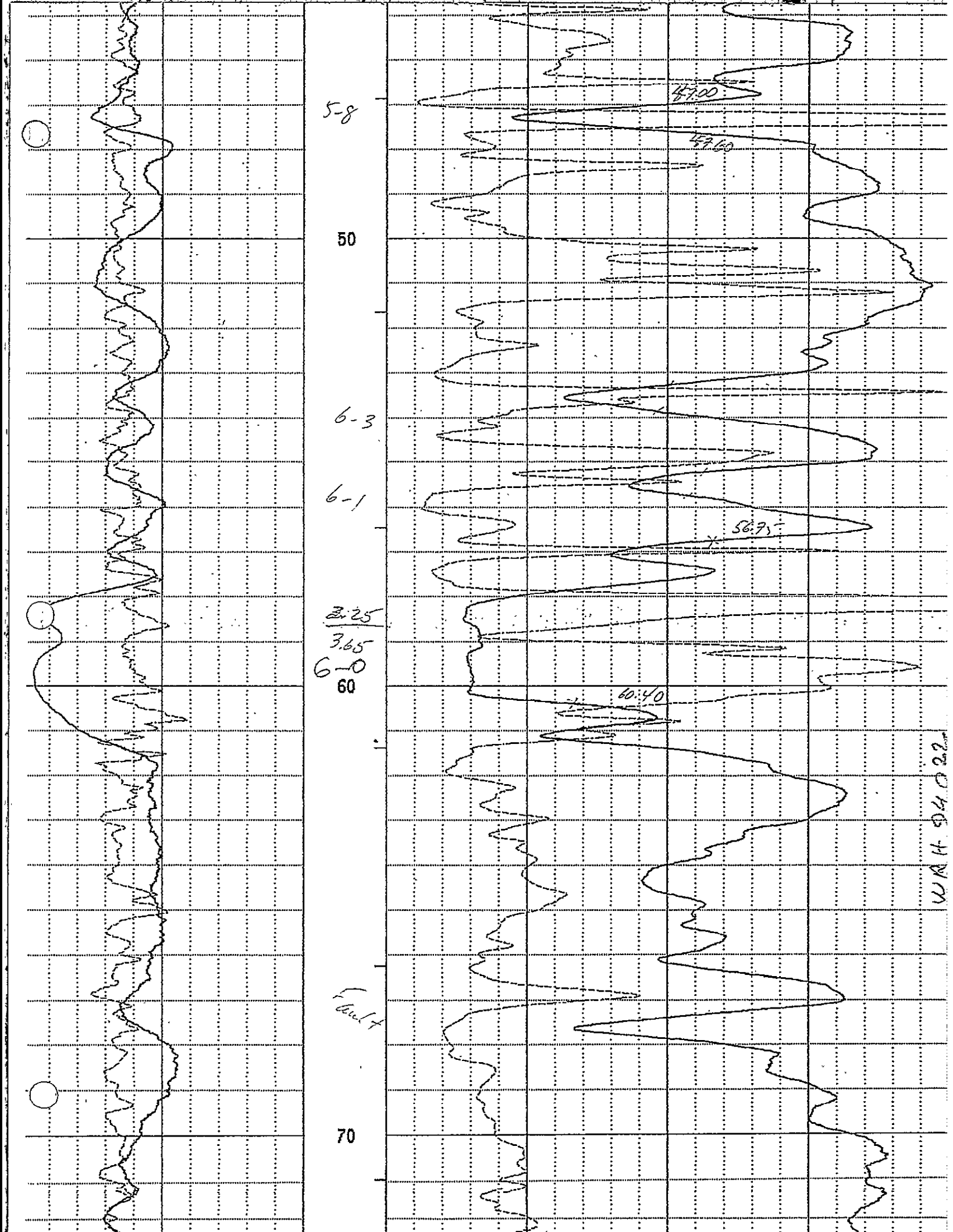
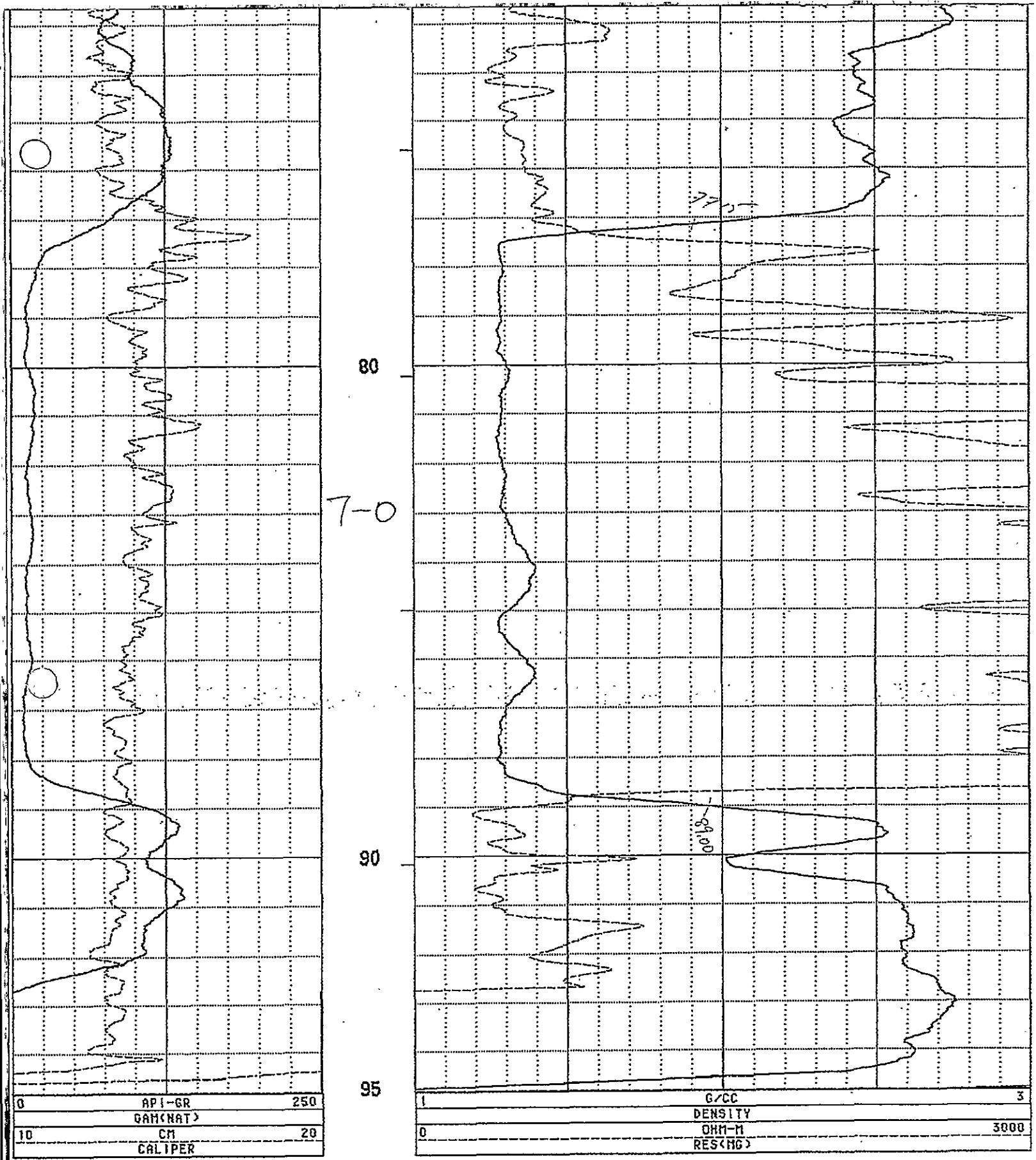

5-8
47.00
47.60
50
6-3
6-1
56.93
2.25
3.65
6-0
60
60.40
Fault
70



WRH-94022 03/31/94 440

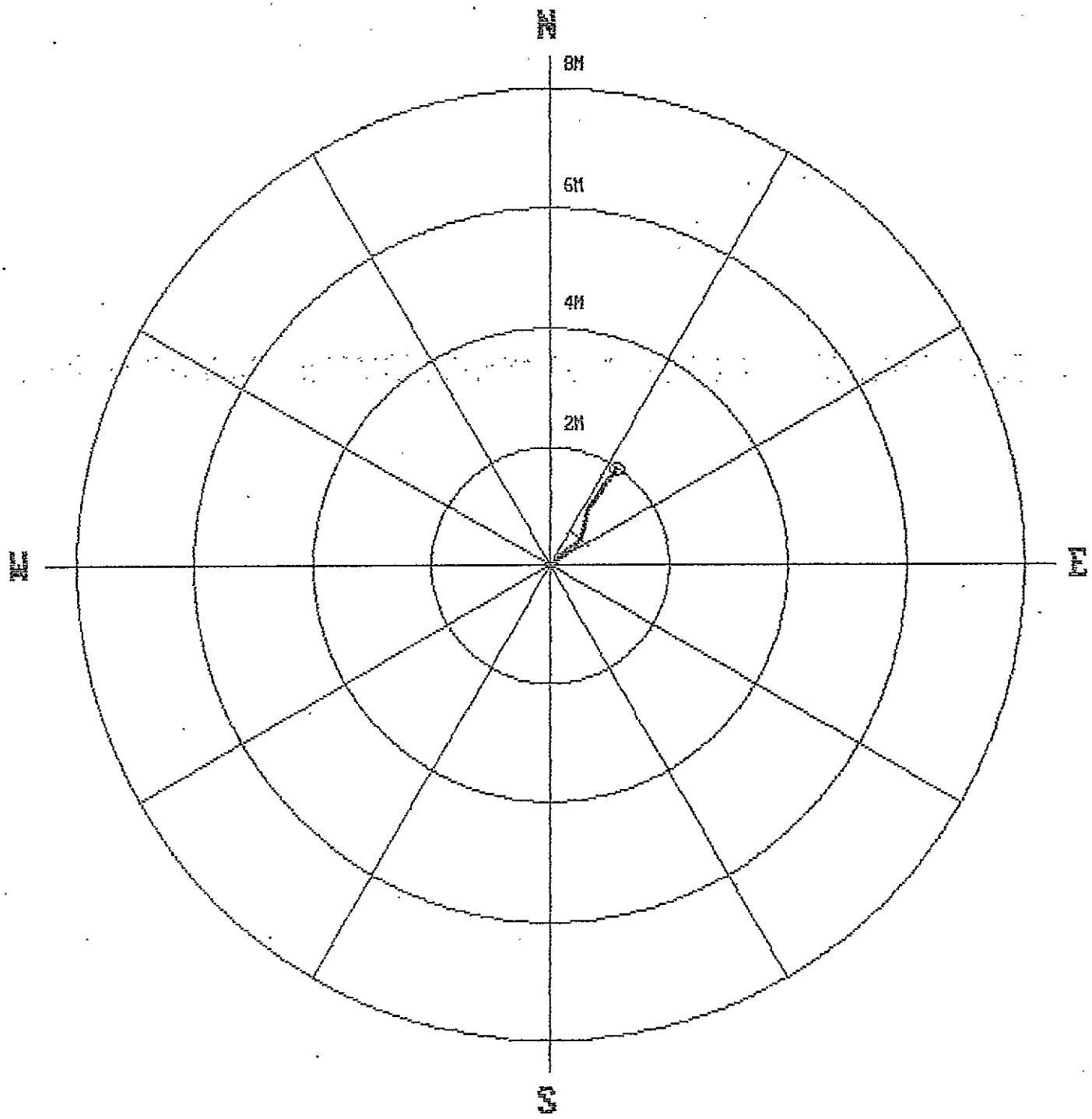
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK .
HOLE ID: WRH-94022
DATE OF LOG: 03/30/94
PROBE: 9055A 255 .

MAG DECL: 24.5

SCALE: 1 M/CM
TRUE DEPTH: 94.77 M
AZIMUTH: 34.6
DISTANCE: 2.0 M
+ = 50 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94022
DATE OF LOG : 03/30/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 6

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
5.0	5.00	0.01	0.02	0.0	76.7	0.7	81.5
10.0	10.00	0.03	0.07	0.1	67.3	0.6	43.4
15.0	15.00	0.07	0.11	0.1	58.2	0.5	42.1
20.0	20.00	0.11	0.16	0.2	54.3	0.6	34.7
25.0	25.00	0.16	0.21	0.3	53.1	0.7	65.7
30.0	30.00	0.21	0.28	0.3	52.9	0.9	41.5
35.0	35.00	0.26	0.35	0.4	53.4	1.4	72.3
40.0	40.00	0.32	0.43	0.5	53.8	0.9	60.2
45.0	44.99	0.37	0.49	0.6	52.9	0.7	26.7
50.0	49.99	0.45	0.52	0.7	49.3	1.5	18.3
55.0	54.99	0.62	0.58	0.9	43.0	2.6	16.8
60.0	59.99	0.84	0.63	1.1	37.0	2.4	11.1
65.0	64.98	1.05	0.72	1.3	34.5	2.0	43.4
70.0	69.98	1.18	0.81	1.4	34.7	2.1	22.9
75.0	74.98	1.29	0.89	1.6	34.8	1.0	28.7
80.0	79.97	1.37	0.95	1.7	34.6	1.2	35.7
85.0	84.97	1.44	1.01	1.8	35.0	1.1	27.9
90.0	89.97	1.54	1.06	1.9	34.6	1.3	29.1
94.8	94.77	1.64	1.13	2.0	34.6	1.6	40.0
95.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.19

WRH 94023

Century GEOPHYSICAL CORP.

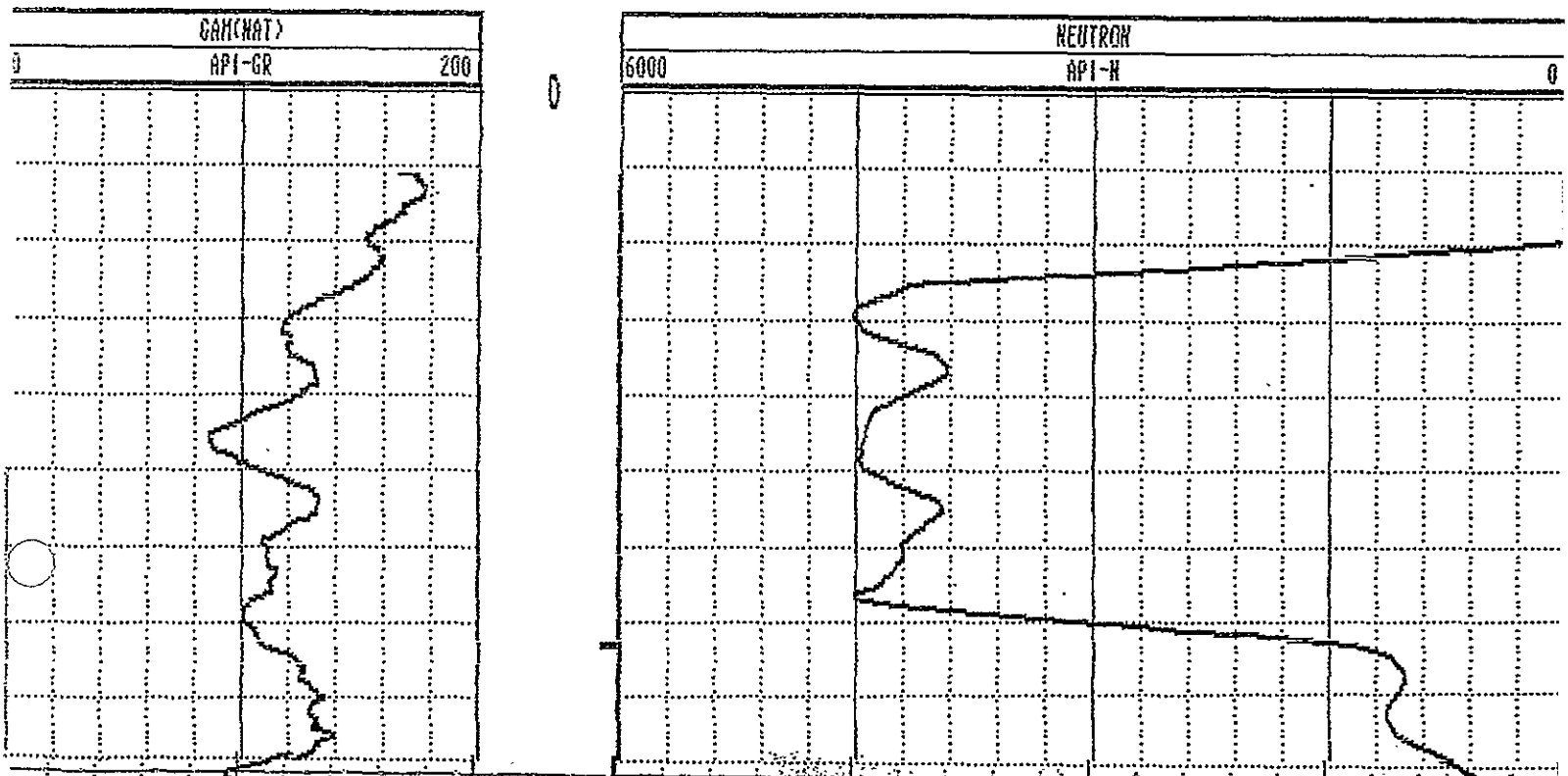
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94023				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/01/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 75	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 59.00	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 1.11	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS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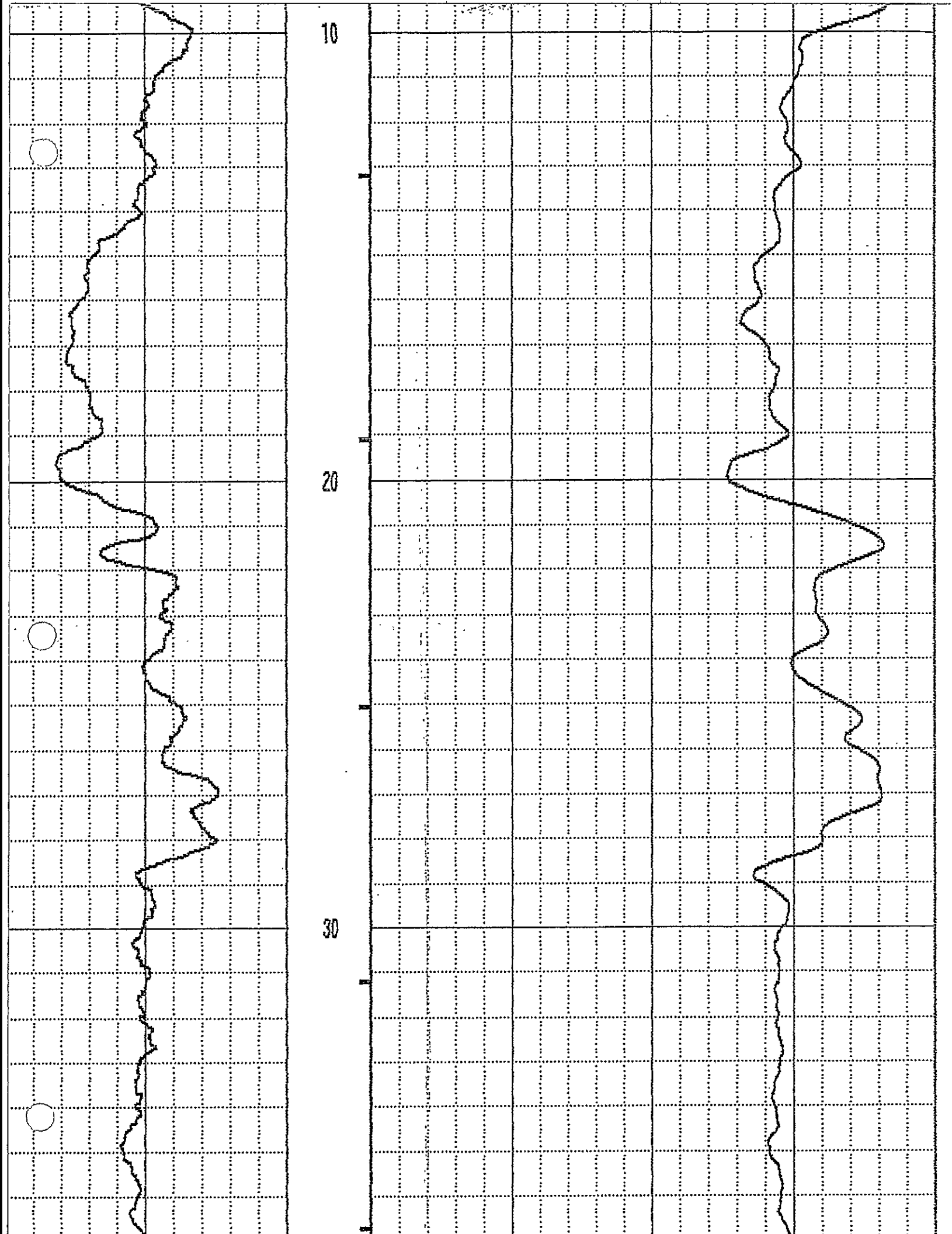
API-GR
200
NEUTRON
6000
API-N
0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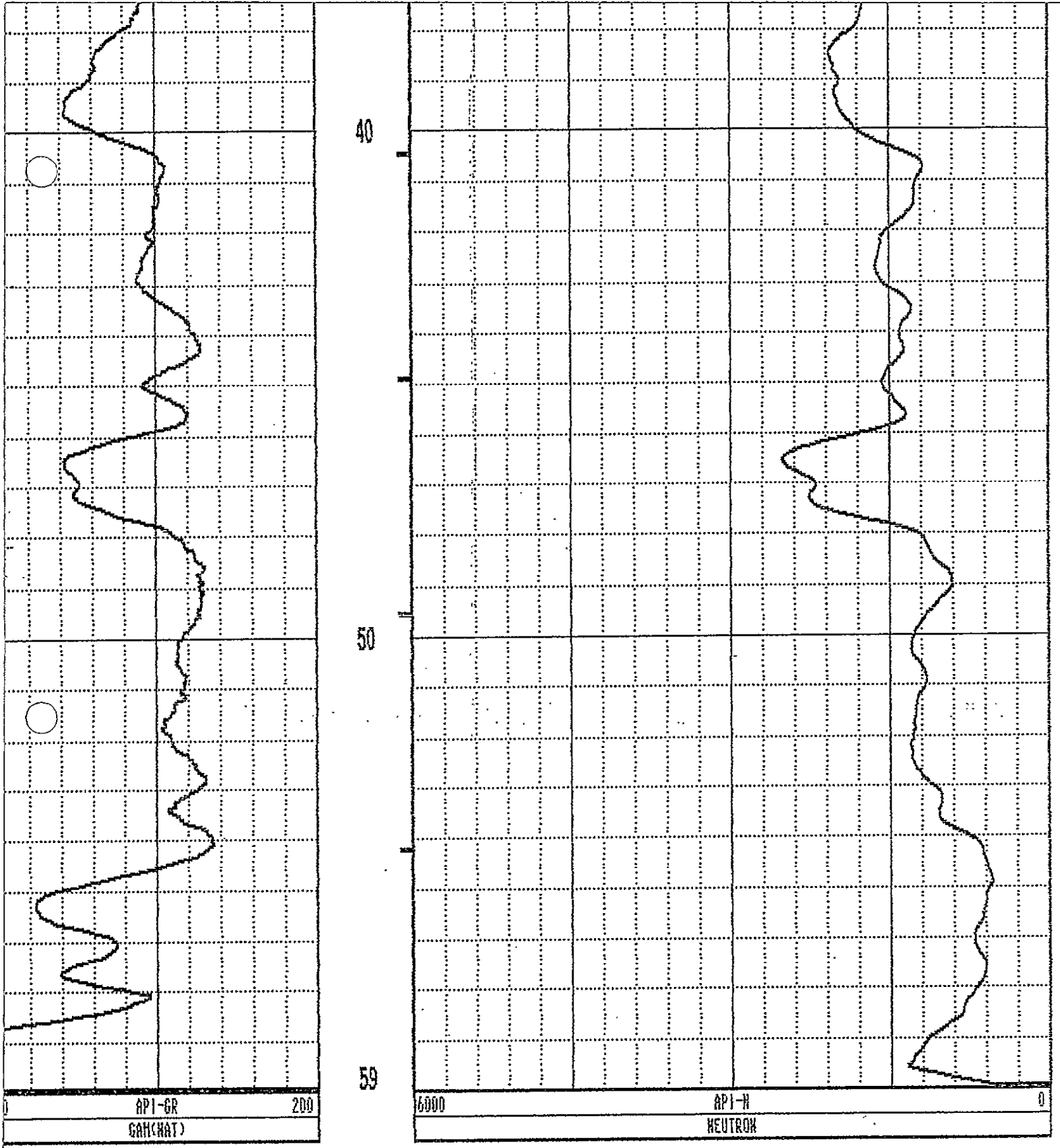
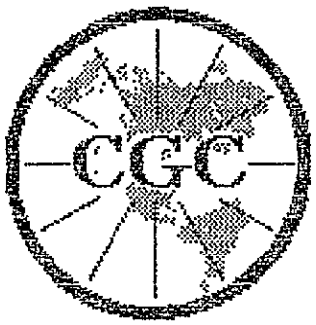
30



WRH-94023 04/01/94 255



Century GEOPHYSICAL CORP.

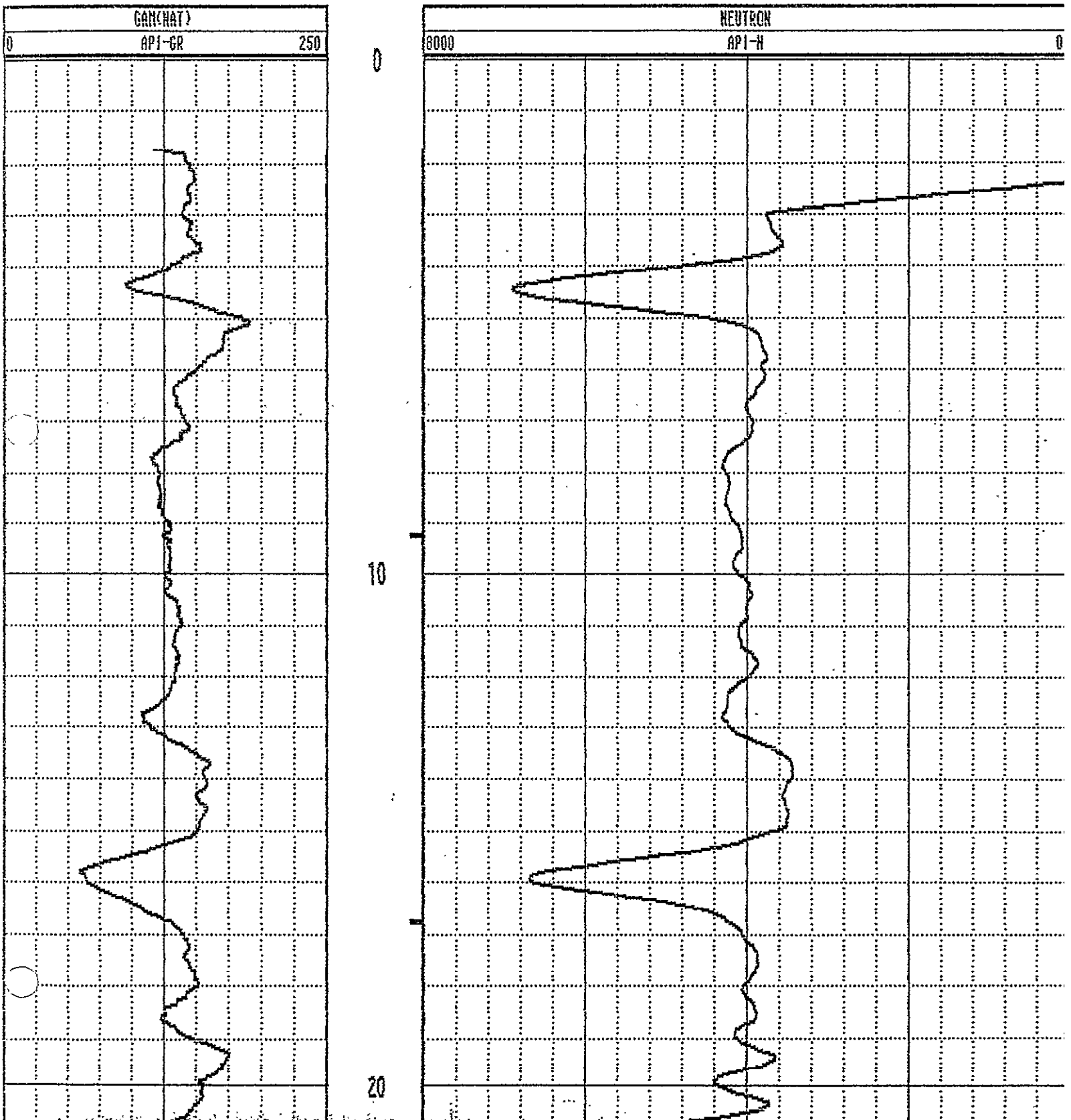
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94021				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 03/31/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 100	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 97.89	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 1.73	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 0
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS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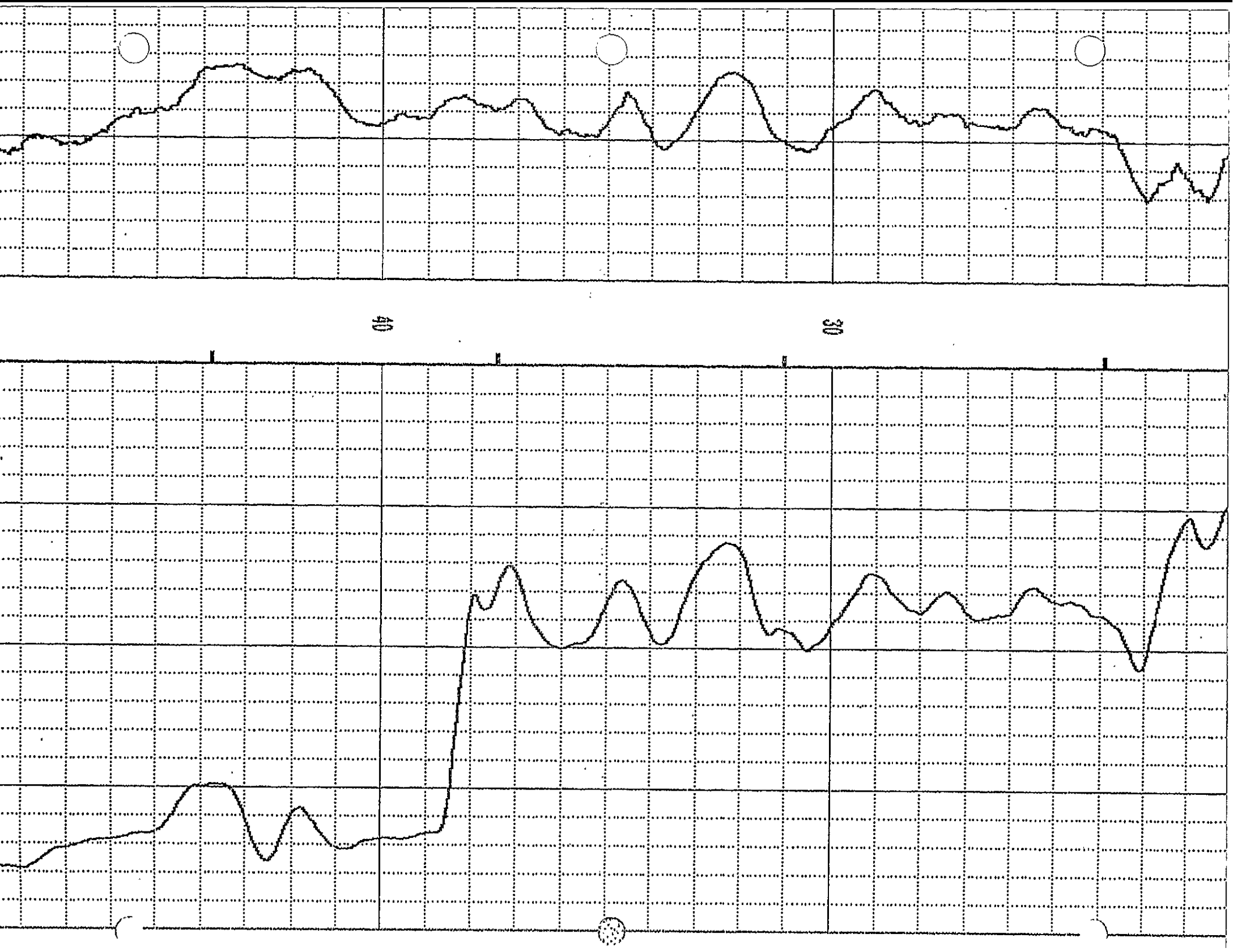
0
API-GR
250
NEUTRON
8000
API-N
0
0
10
20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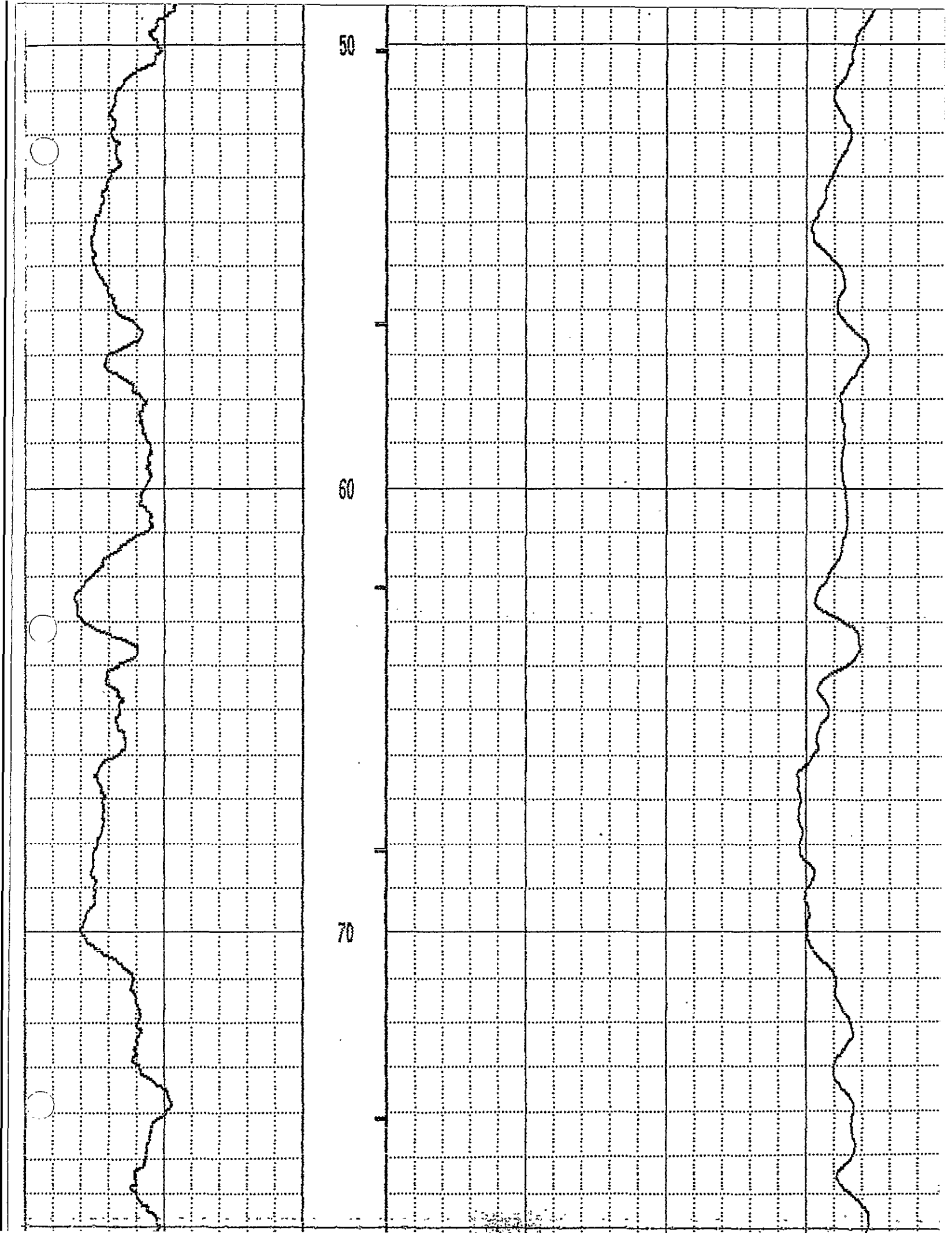
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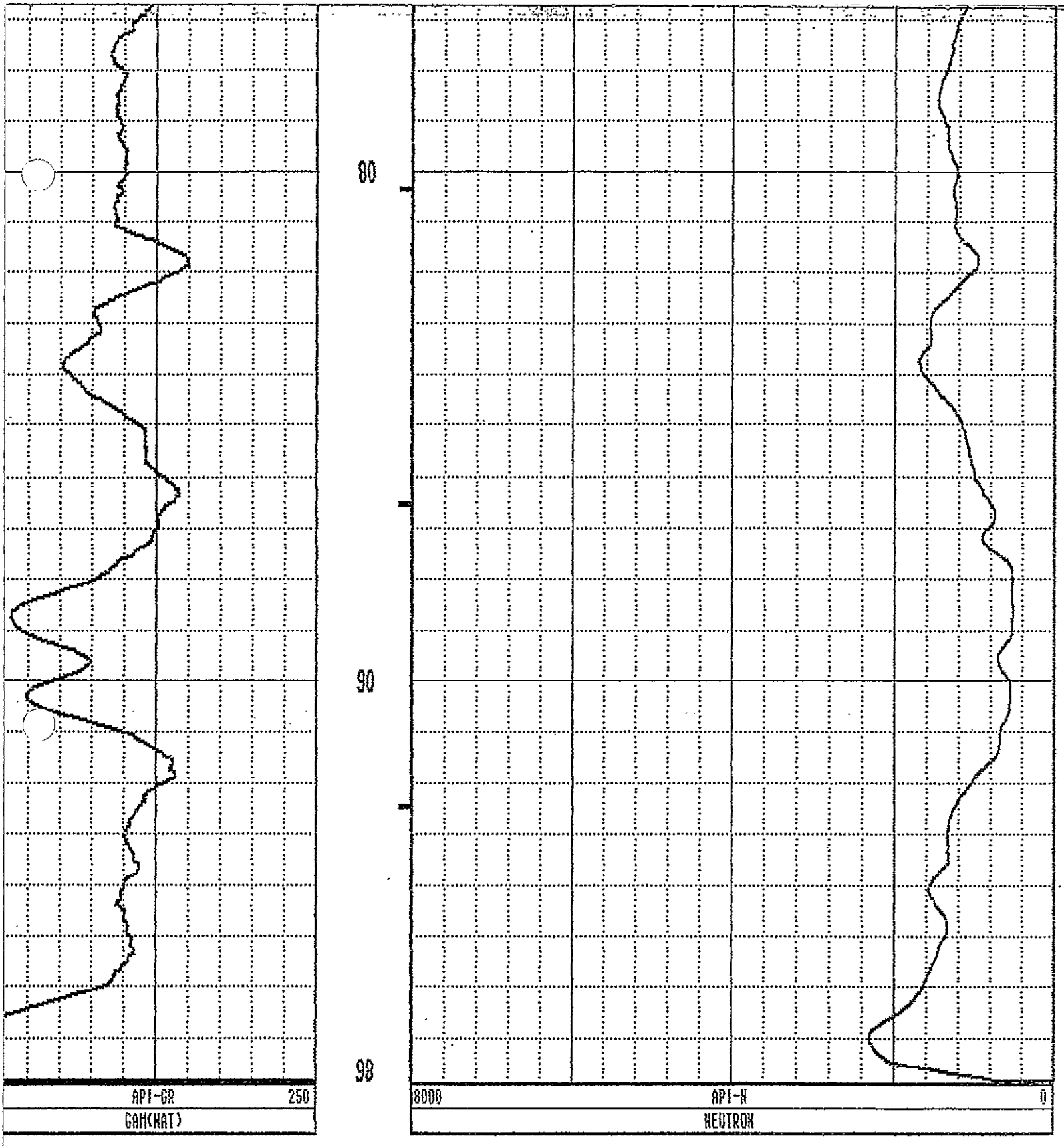
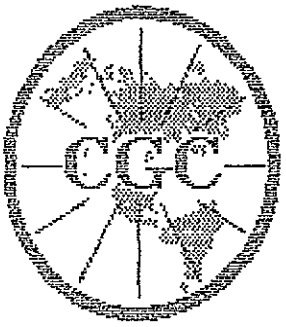


WRH-94021 03/31/94 255



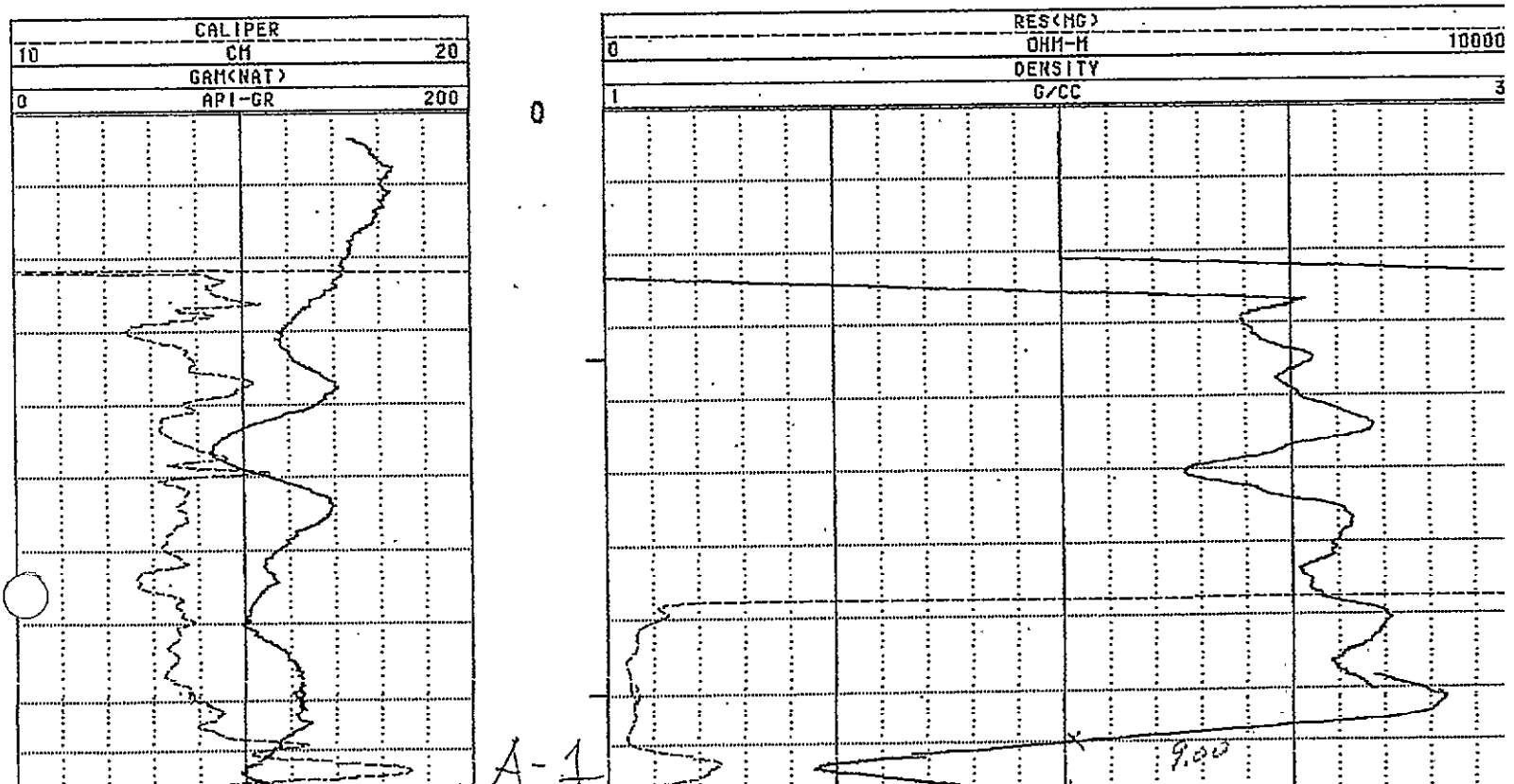
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

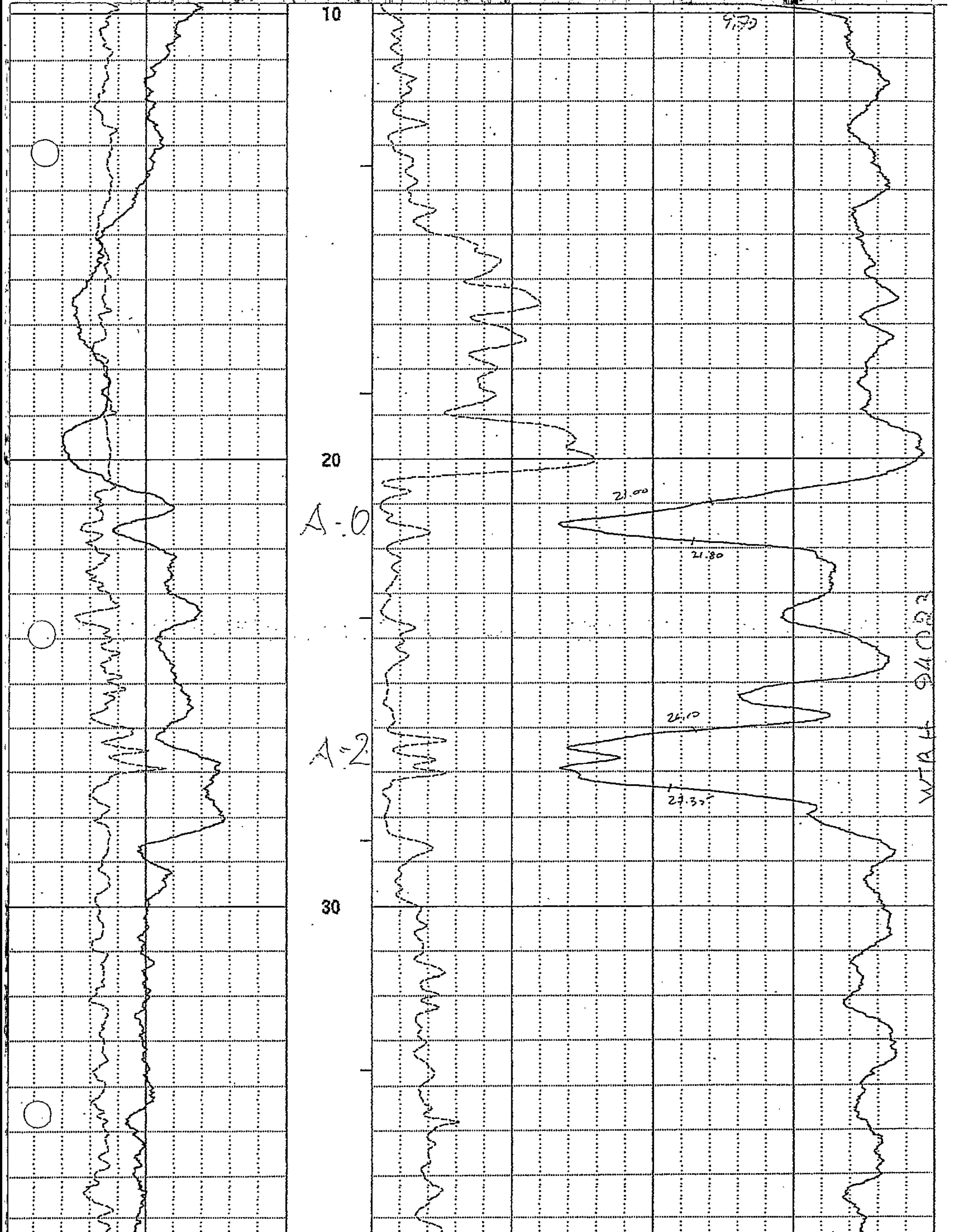
COMPANY	: GLOBALTEX				
WELL	: WRH-94023				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/01/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 75	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 58.94	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.36	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

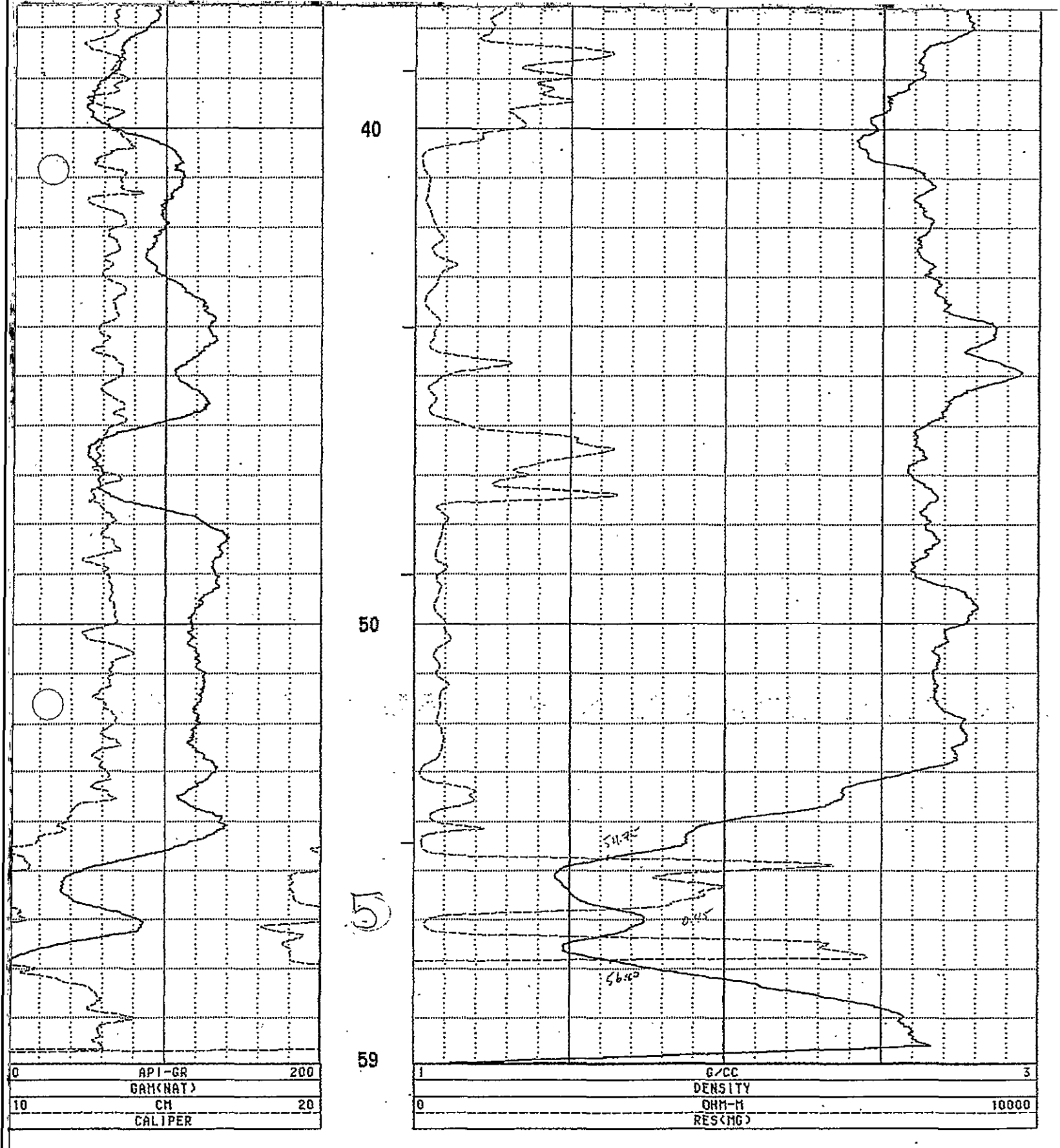
OPEN HOLE

OTHER SERVICES:
9030
9855


CALIPER
10
CM
20
GAM(NAT)
0
API-GR
200
0
RES(MG)
0
OHM-M
10000
DENSITY
1
G/CC
3
9.00

A-1


10
20
30
A-0
A-2
21.00
21.80
26.10
27.30



WRH-94023 04/01/94 440

94-23

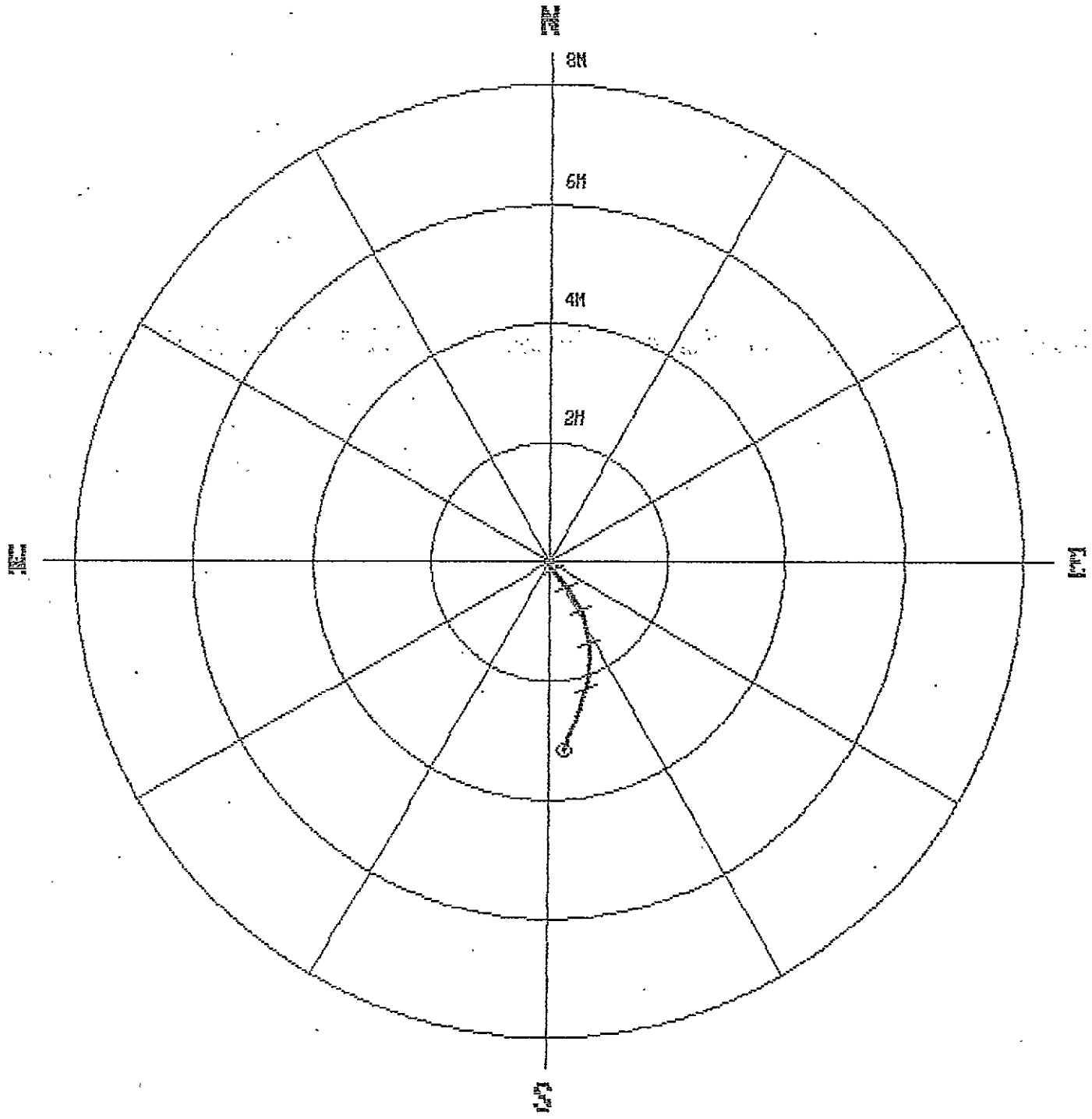
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94023
DATE OF LOG: 04/01/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 1 M/CM
TRUE DEPTH: 58.80 M
AZIMUTH: 175.3
DISTANCE: 3.2 M
+ = 10 M INCR
○ = BOTTOM OF HOLE



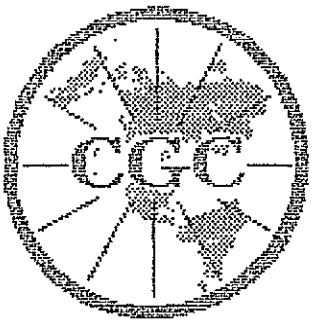
* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

CLIENT	: GLOBALTEX	HOLE ID.	: WRH-94023
FIELD OFFICE	: CALGARY	DATE OF LOG	: 04/01/94
DATA FROM	:	PROBE	: 9055A , 255
MAG. DECL.	: 24.500	DEPTH UNITS	: METERS LOG 3

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.3	2.30	0.00	0.00	0.0	0.0	0.0	0.0
6.1	6.12	-0.06	0.01	0.1	172.1	0.9	119.9
11.1	11.12	-0.17	0.09	0.2	152.7	1.8	144.5
16.1	16.11	-0.30	0.20	0.4	146.8	2.0	140.2
21.1	21.11	-0.44	0.32	0.5	143.9	2.1	141.2
26.1	26.11	-0.64	0.45	0.8	144.8	2.7	153.2
31.1	31.10	-0.86	0.56	1.0	146.9	3.0	160.6
36.1	36.09	-1.13	0.64	1.3	150.4	3.4	163.7
41.1	41.08	-1.43	0.68	1.6	154.5	3.7	178.5
46.1	46.07	-1.77	0.69	1.9	158.8	4.2	182.9
51.1	51.05	-2.22	0.60	2.3	164.8	5.9	183.5
56.1	56.01	-2.79	0.40	2.8	171.8	8.2	202.7
58.9	58.80	-3.15	0.26	3.2	175.3	7.7	199.1

Appendix 3.20

WRH 94024

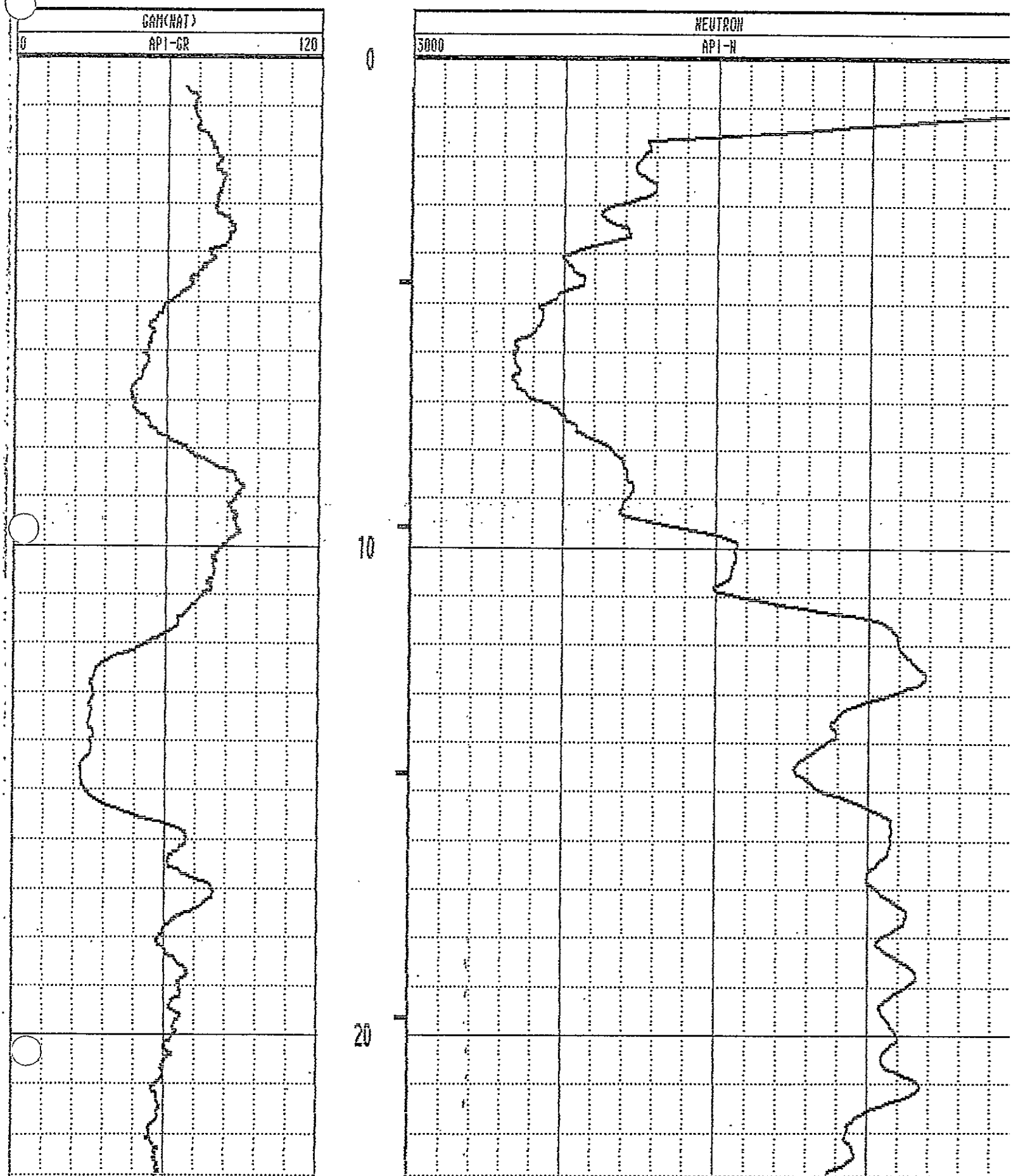


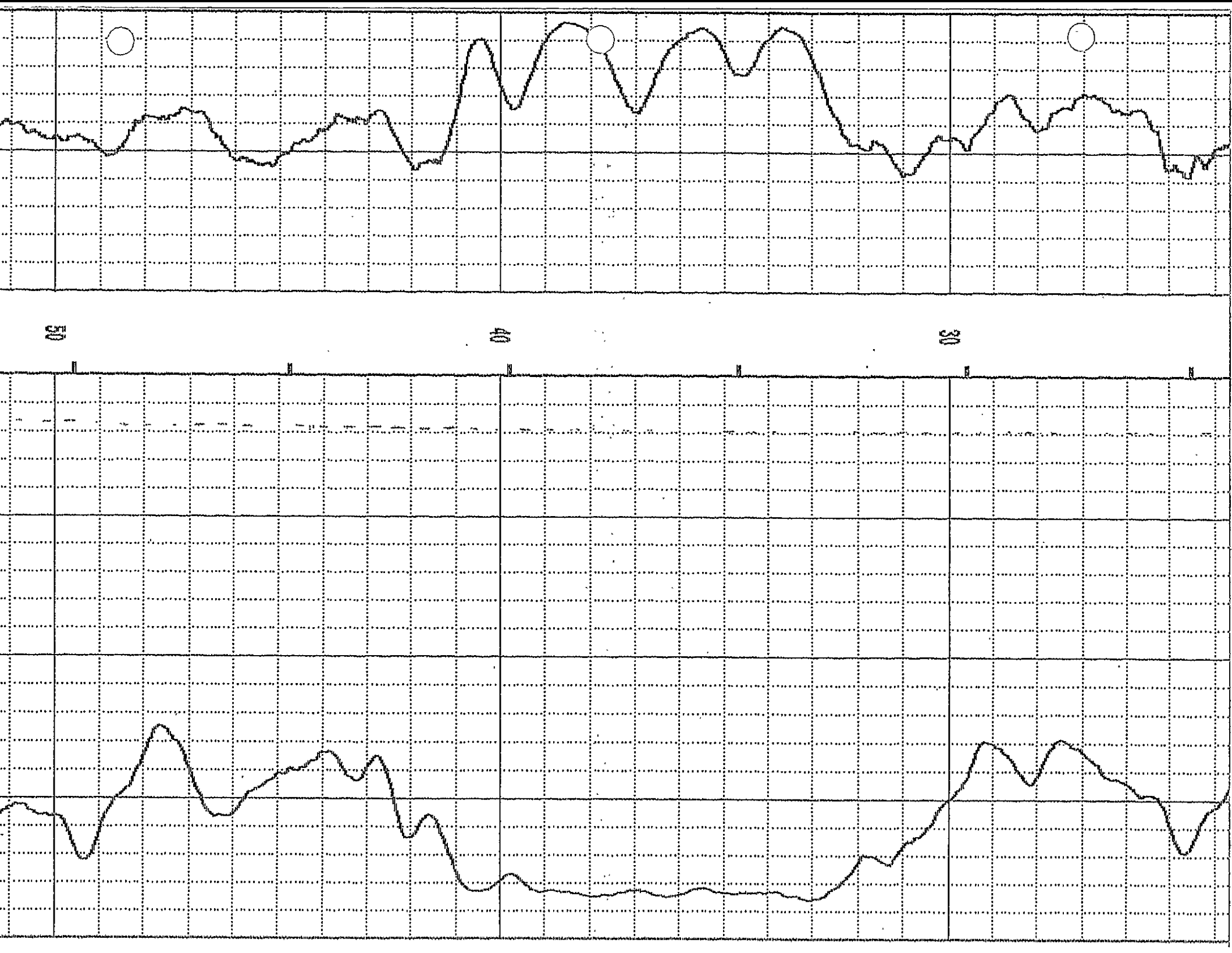
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: MRH-94024			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/02/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 128	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 126.40	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.62	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :
THROUGH RODS


GAM(HAT)
0
API-GR
120
NEUTRON
3000
API-N
0
10
20


50
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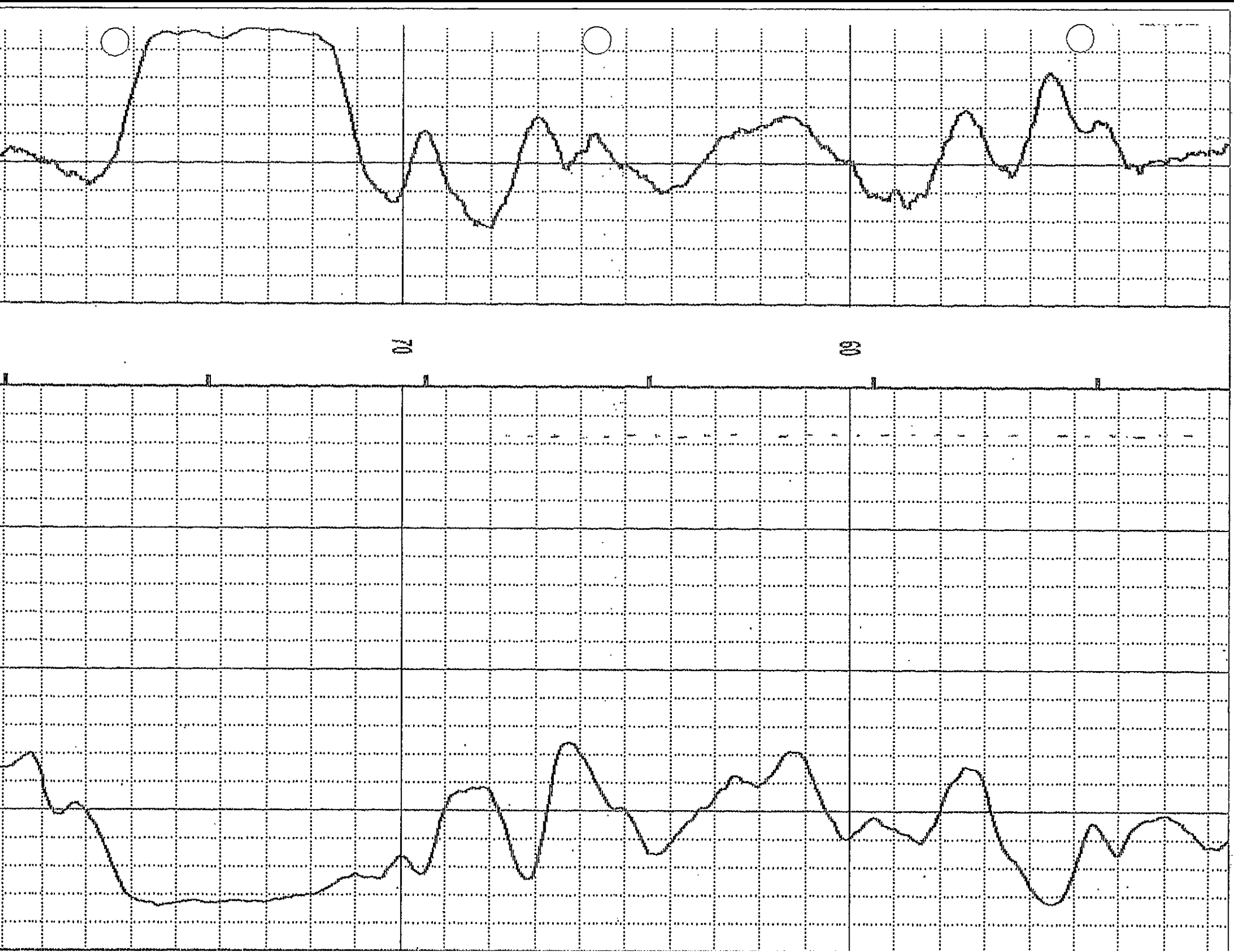

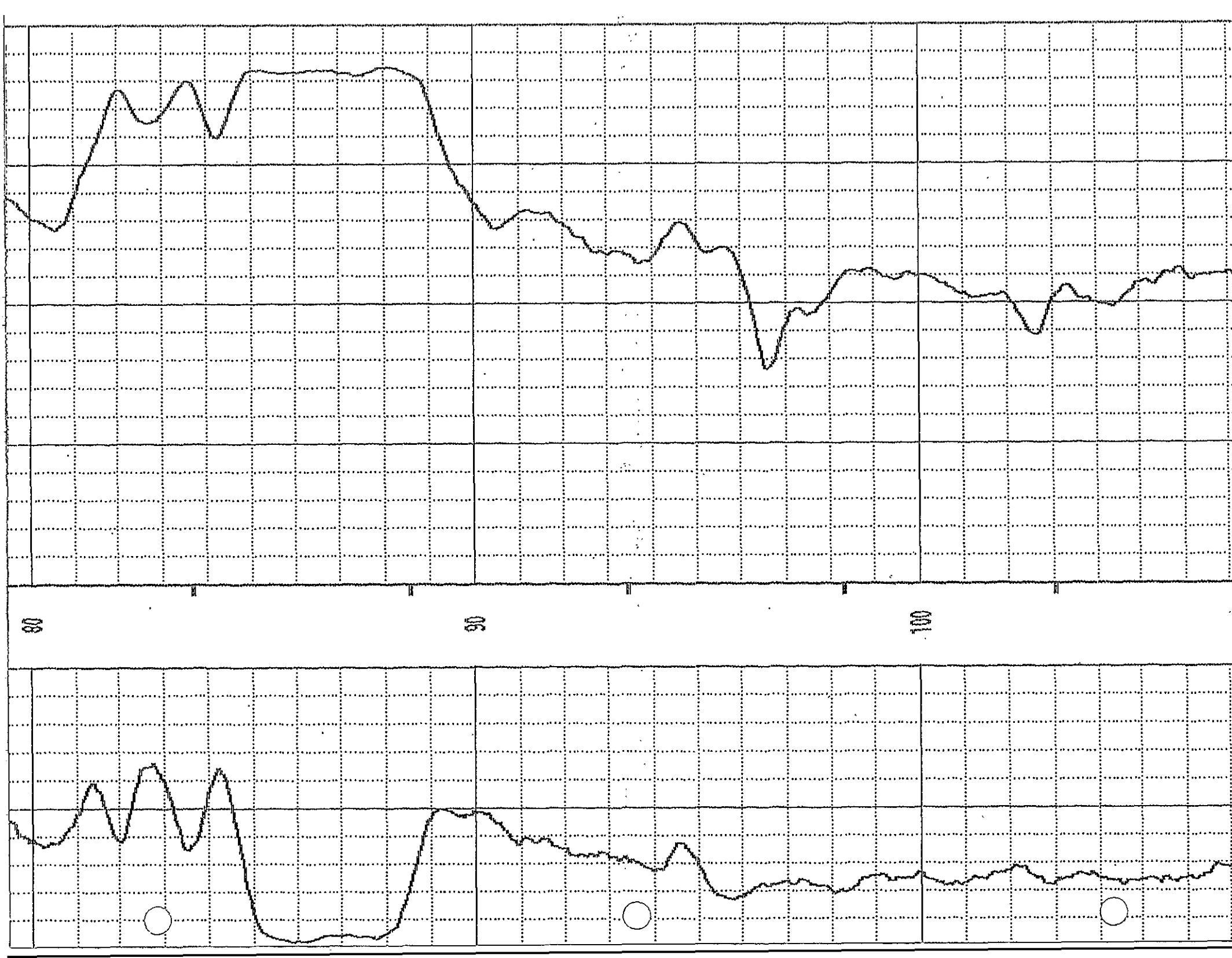
80
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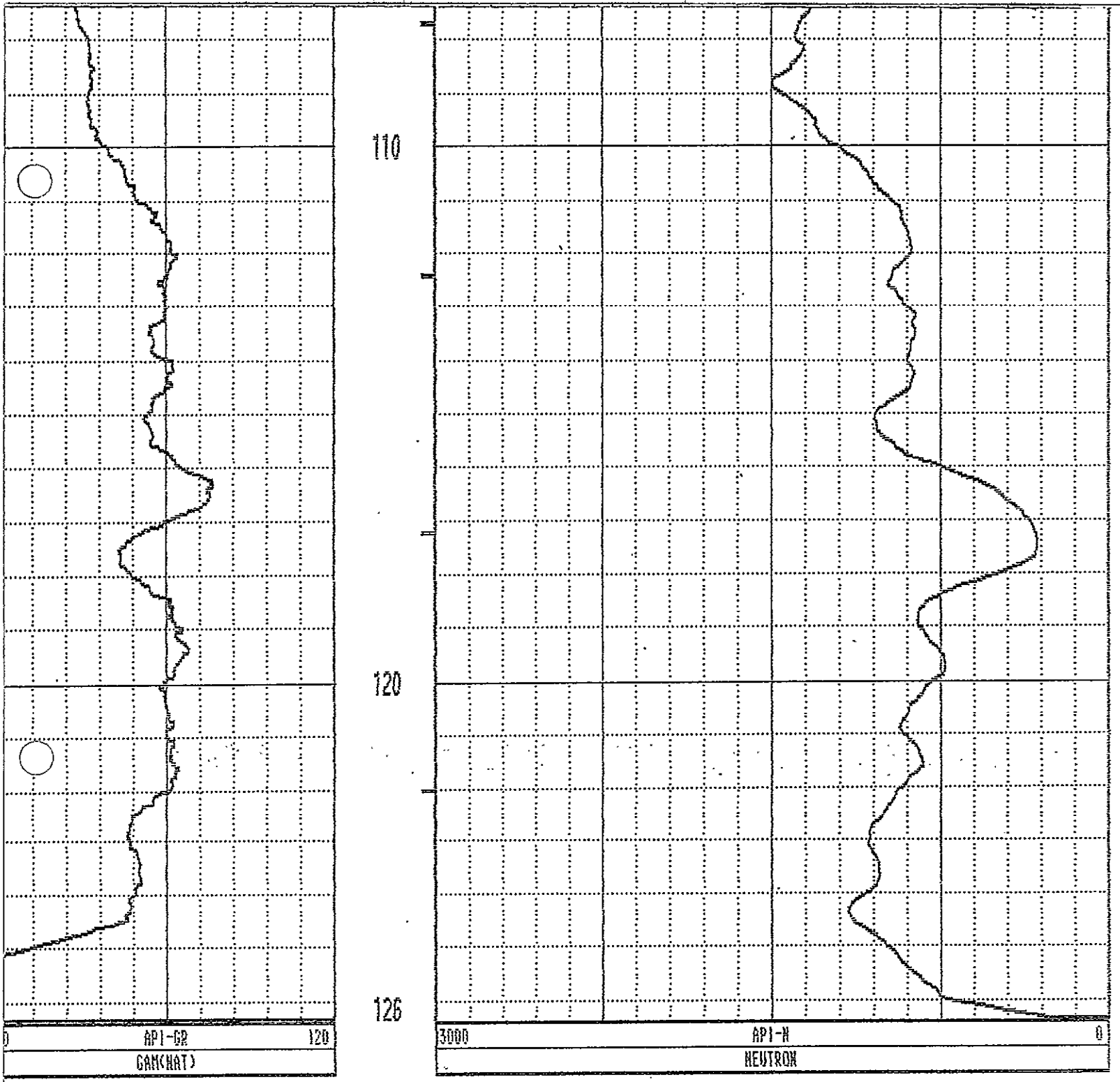


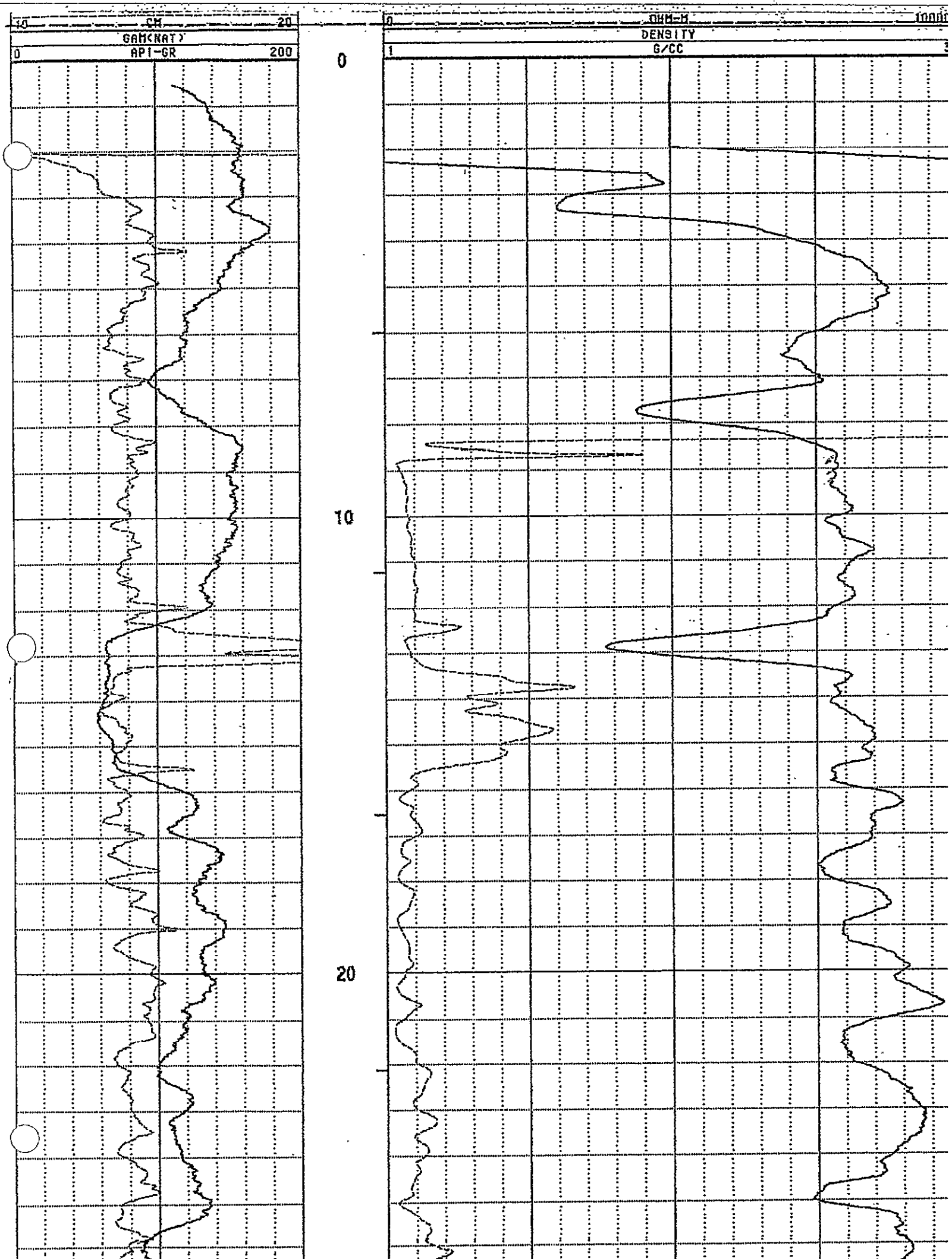
WRH-94024 04/02/94 255

Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94024			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/02/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 128	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 125.27	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.56	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE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API-GR
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0
OHM-M
DENSITY
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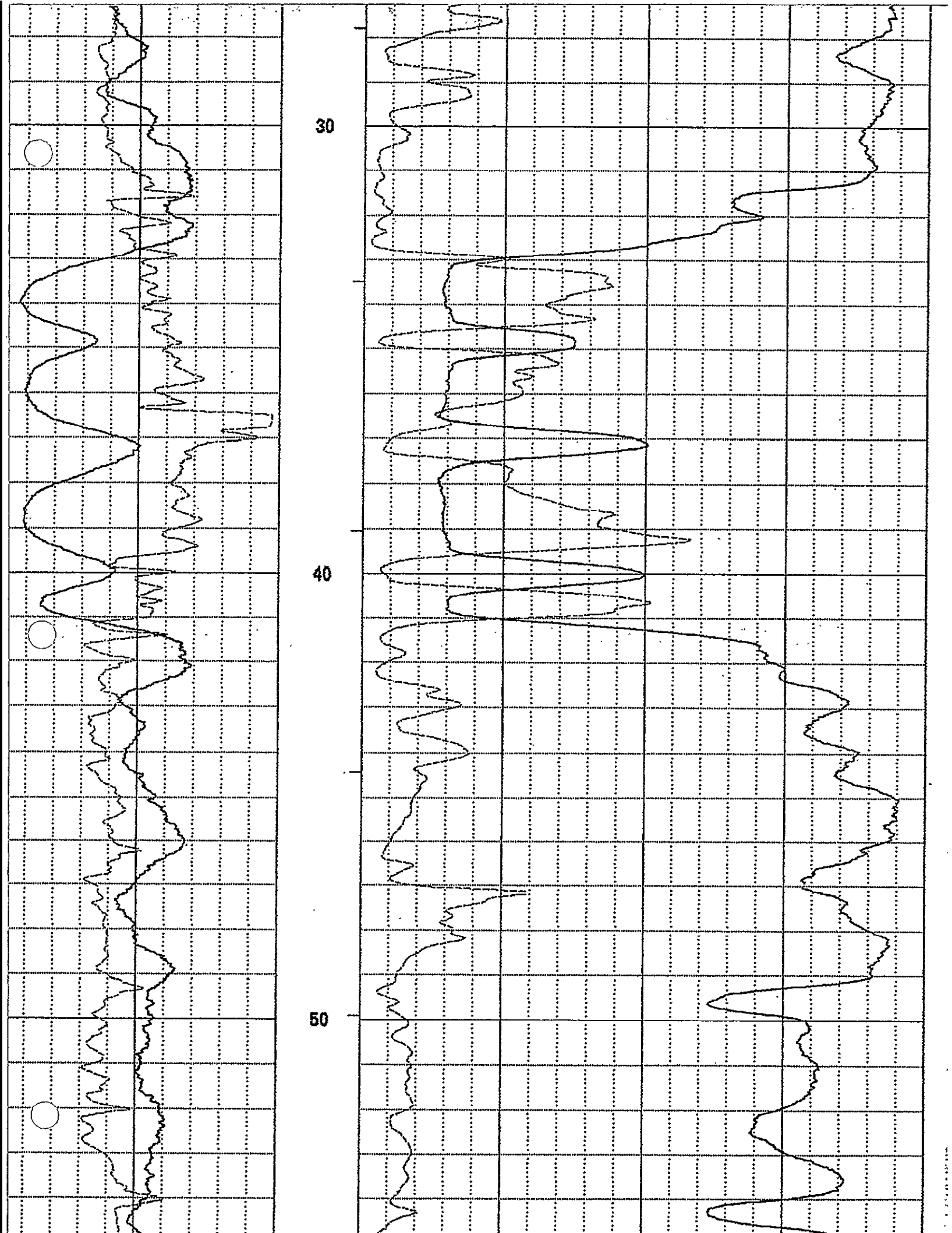
G/CC
0
10
20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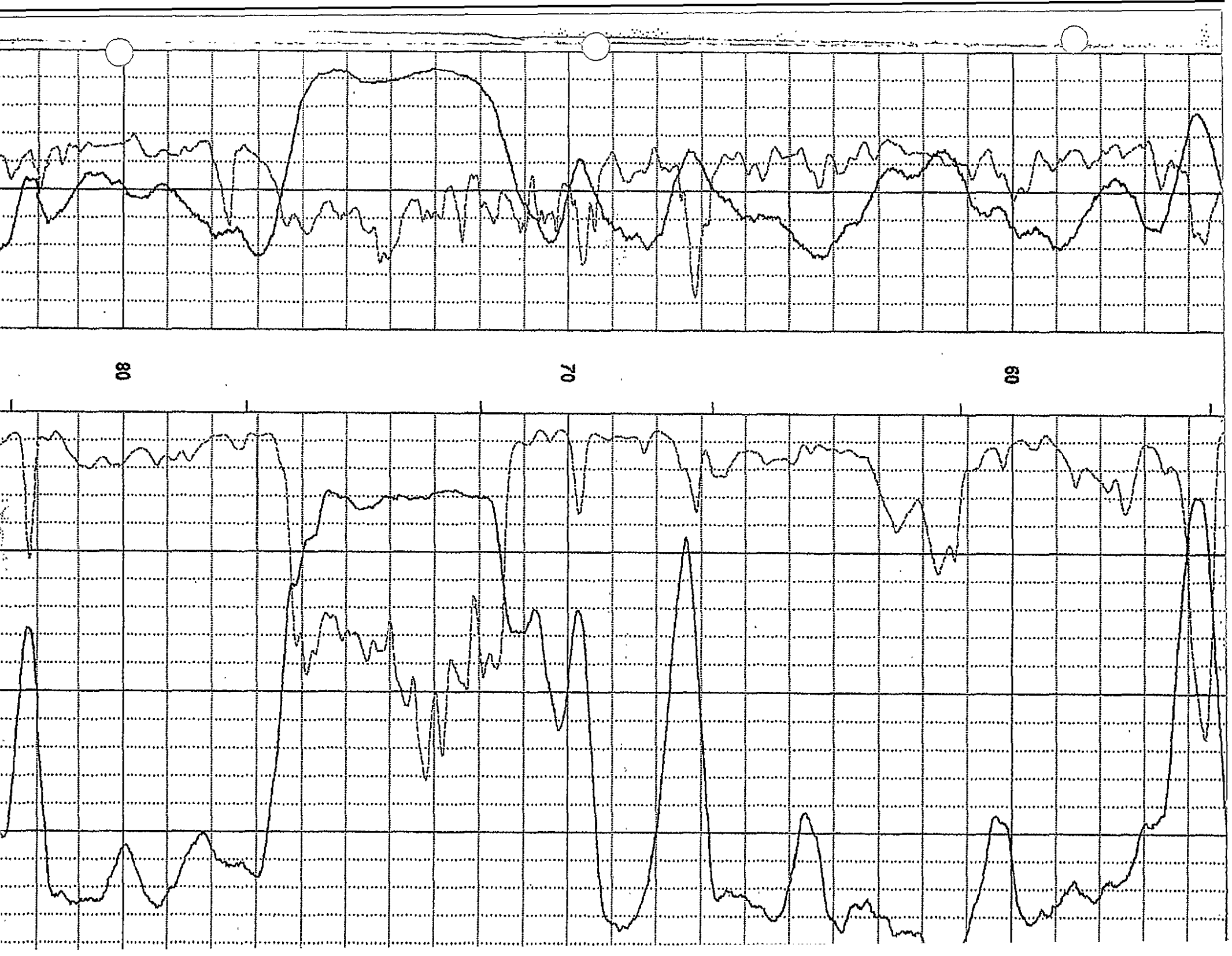
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70
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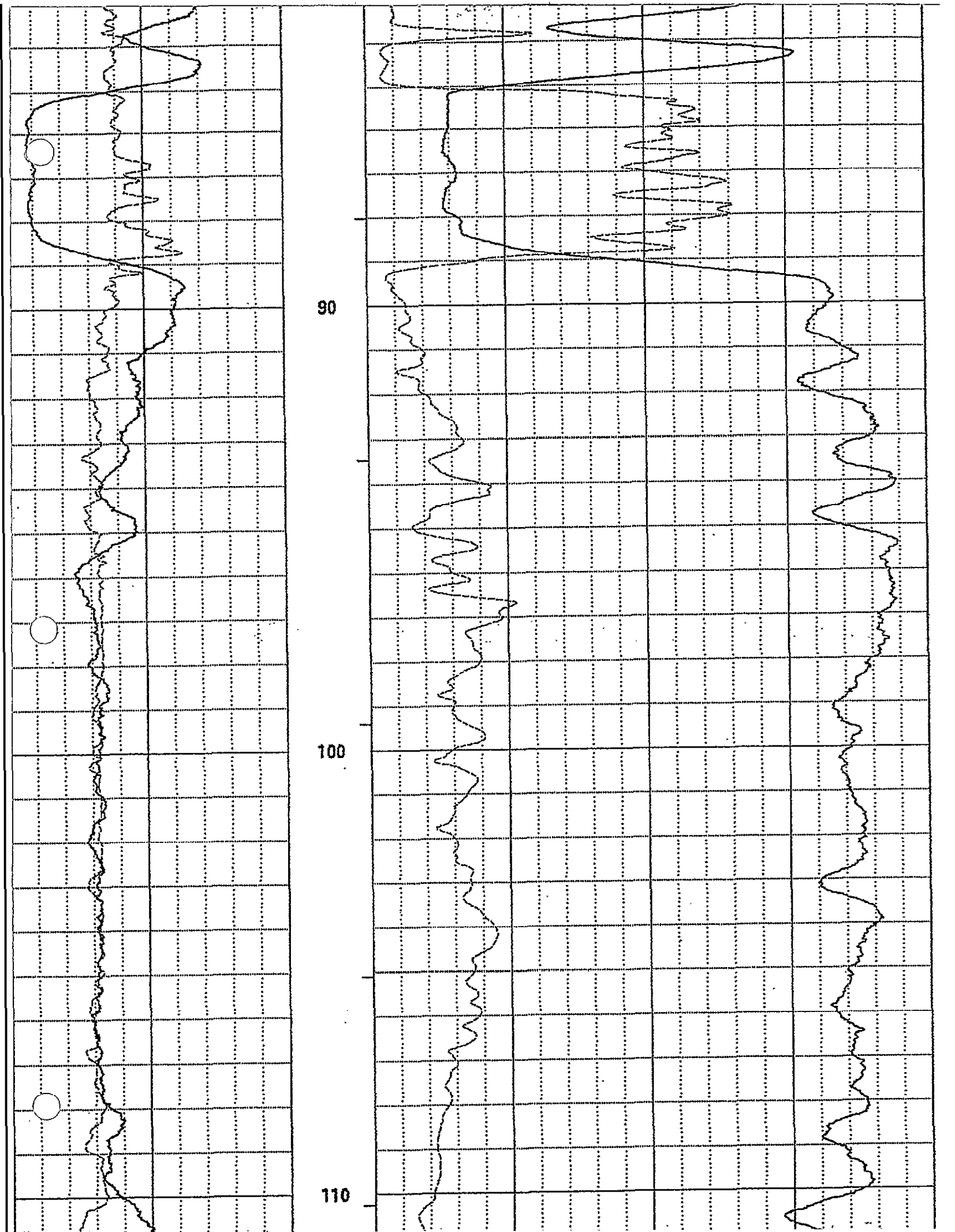
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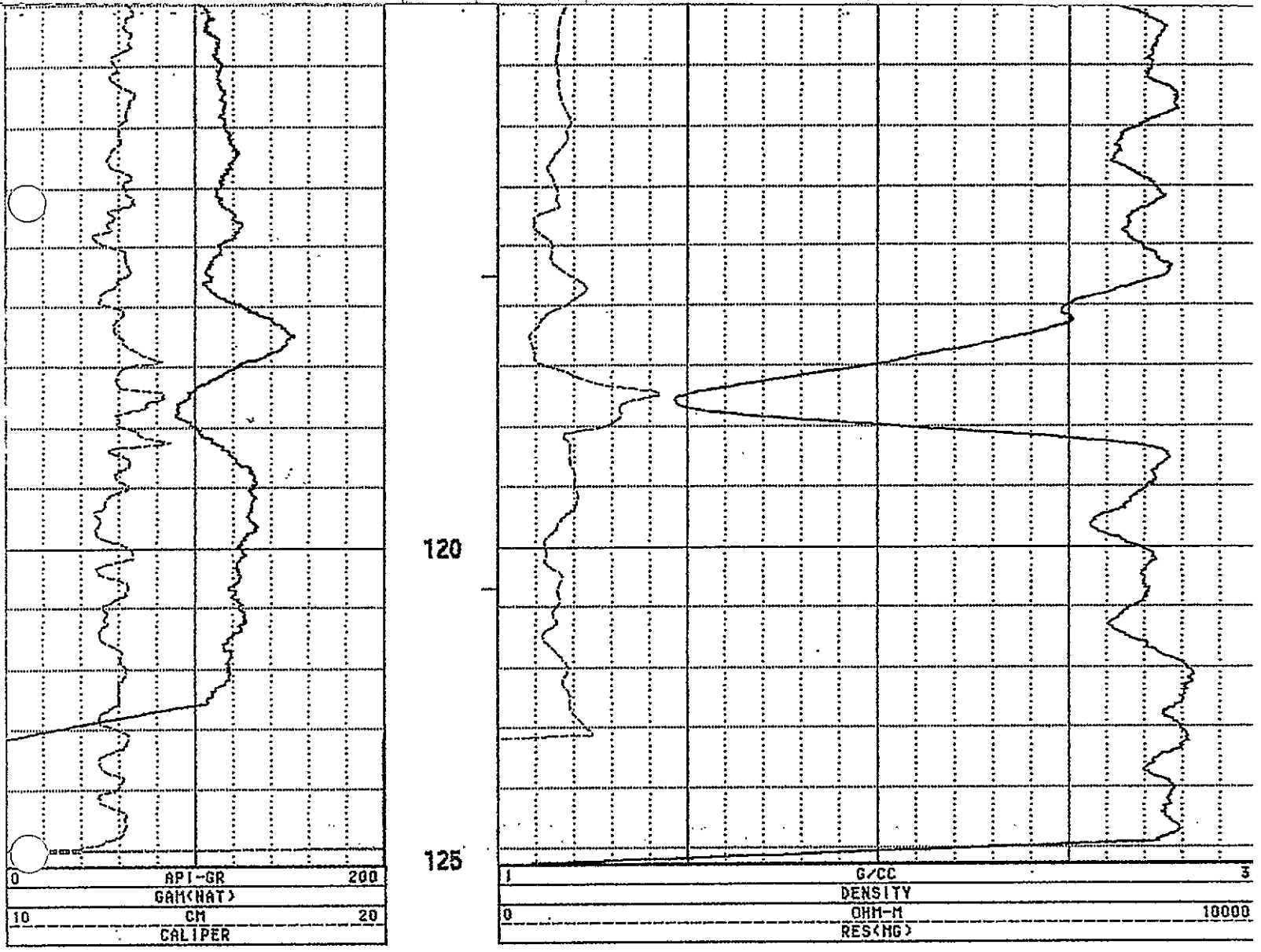


WRH-94024 04/02/94 440

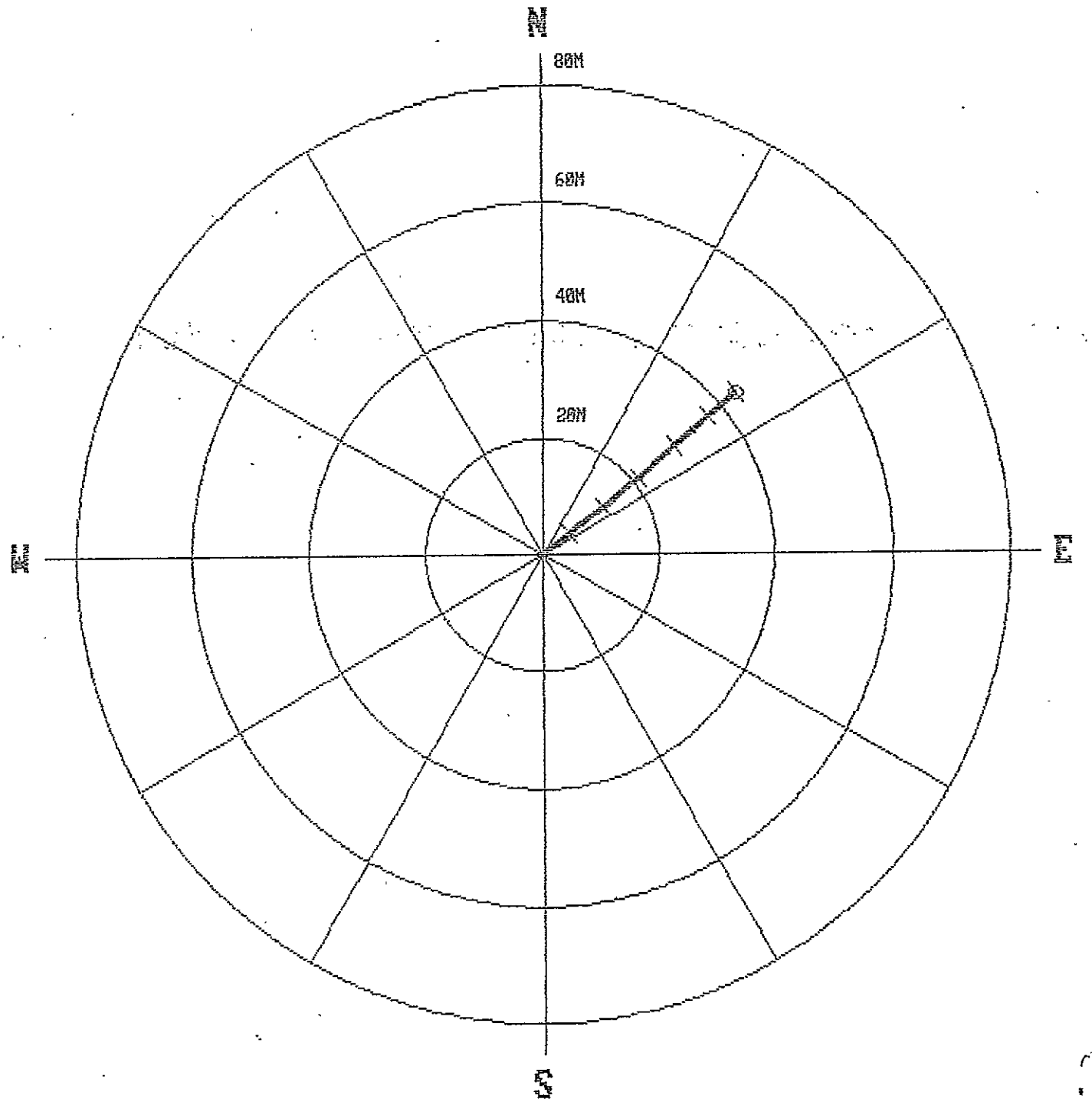
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94024
DATE OF LOG: 04/02/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 10 M/CM
TRUE DEPTH: 117.30 M
AZIMUTH: 50.4
DISTANCE: 43.4 M
+ = 20 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

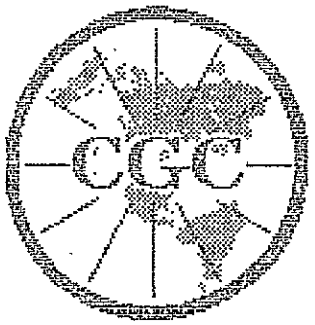
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94024
DATE OF LOG : 04/02/94
PROBE : 9055A , 255
DEPTH UNITS : METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
5.0	4.85	0.50	0.73	0.9	55.9	18.0	52.7
10.0	9.61	1.46	1.95	2.4	53.2	18.2	51.5
15.0	14.35	2.45	3.19	4.0	52.4	18.6	50.9
20.0	19.09	3.44	4.44	5.6	52.2	18.8	51.6
25.0	23.82	4.45	5.71	7.2	52.1	19.2	51.4
30.0	28.53	5.49	7.01	8.9	51.9	19.5	50.3
35.0	33.22	6.55	8.37	10.6	52.0	20.9	50.1
40.0	37.88	7.68	9.80	12.5	51.9	21.6	50.6
45.0	42.52	8.83	11.25	14.3	51.9	21.3	52.1
50.0	47.19	9.94	12.66	16.1	51.9	20.9	51.5
55.0	51.86	11.06	14.07	17.9	51.8	21.4	51.0
60.0	56.50	12.22	15.50	19.7	51.7	22.1	51.1
65.0	61.13	13.43	16.95	21.6	51.6	22.5	50.9
70.0	65.75	14.66	18.42	23.5	51.5	22.5	49.6
75.0	70.37	15.90	19.87	25.5	51.3	22.5	48.4
80.0	74.99	17.18	21.30	27.4	51.1	22.5	47.7
85.0	79.61	18.46	22.71	29.3	50.9	22.0	48.4
90.0	84.26	19.69	24.10	31.1	50.7	21.5	48.9
95.0	88.92	20.85	25.46	32.9	50.7	20.7	49.3
100.0	93.60	22.00	26.81	34.7	50.6	20.3	49.1
105.0	98.29	23.12	28.14	36.4	50.6	20.3	50.0
110.0	102.97	24.27	29.45	38.2	50.5	20.3	49.6
115.0	107.66	25.40	30.77	39.9	50.5	19.9	49.7
120.0	112.37	26.50	32.06	41.6	50.4	19.8	48.7
125.0	117.07	27.60	33.35	43.3	50.4	19.8	50.4
125.2	117.30	27.65	33.41	43.4	50.4	19.9	49.2
130.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.21

WRH 94029



Century GEOPHYSICAL CORP.

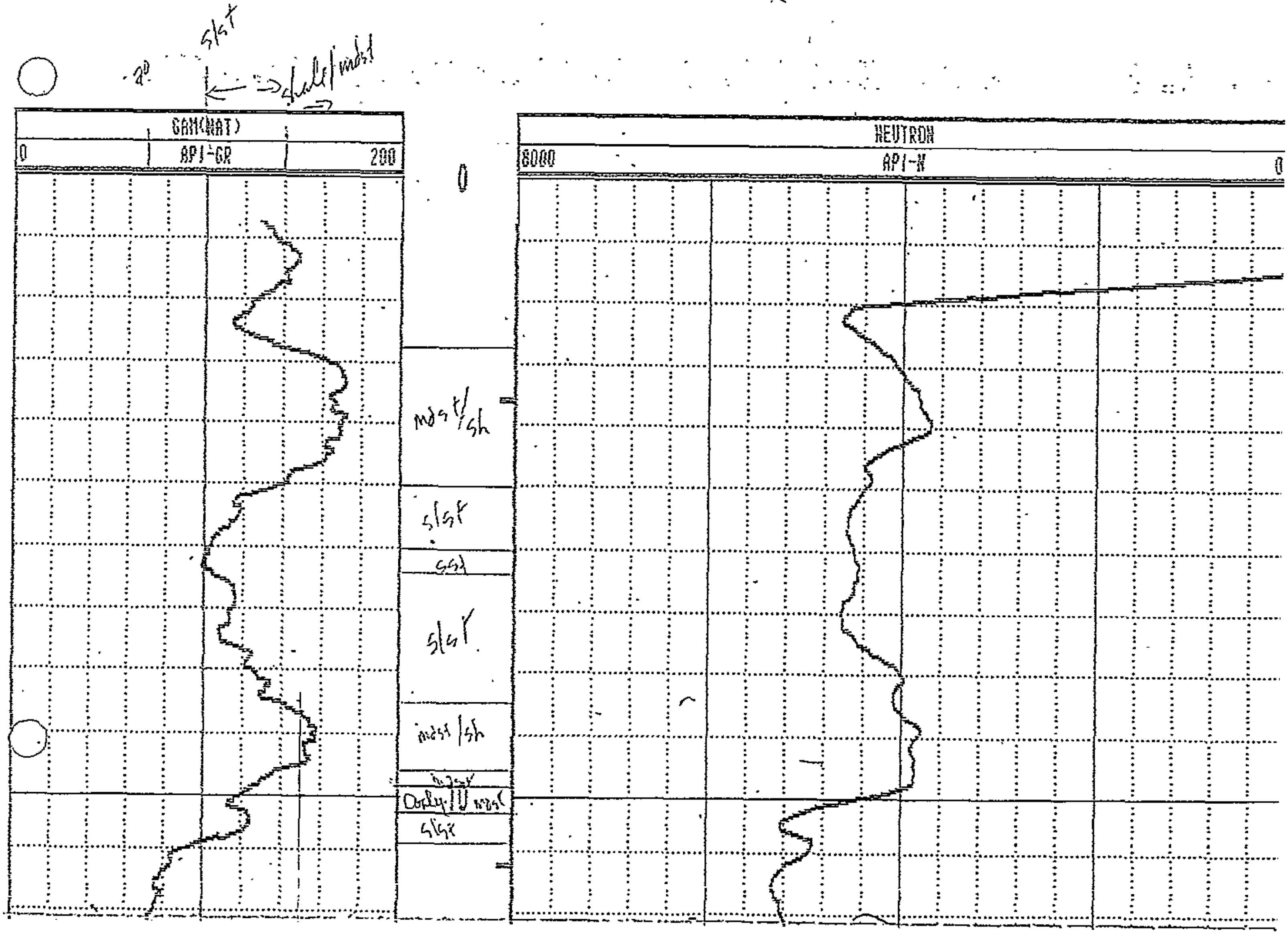
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94029				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/06/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 100	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 89.29	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.76	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: C.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



GAM(NAT)
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API-GR
200
0
NEUTRON
8000
API-N
0

sst
s/st
Coal mdst
mdst
mdst
20
mdst
coal
mdst/st
s/st
mdst/sh.
mdst/coal.
30
Coal
Coal
s/st/mdst
Coal
mdst
sst
s/st

WHQ 940229

slst

sst

slst

sltst

slst

mdst

slst

mdst

slst

sst

50

slst

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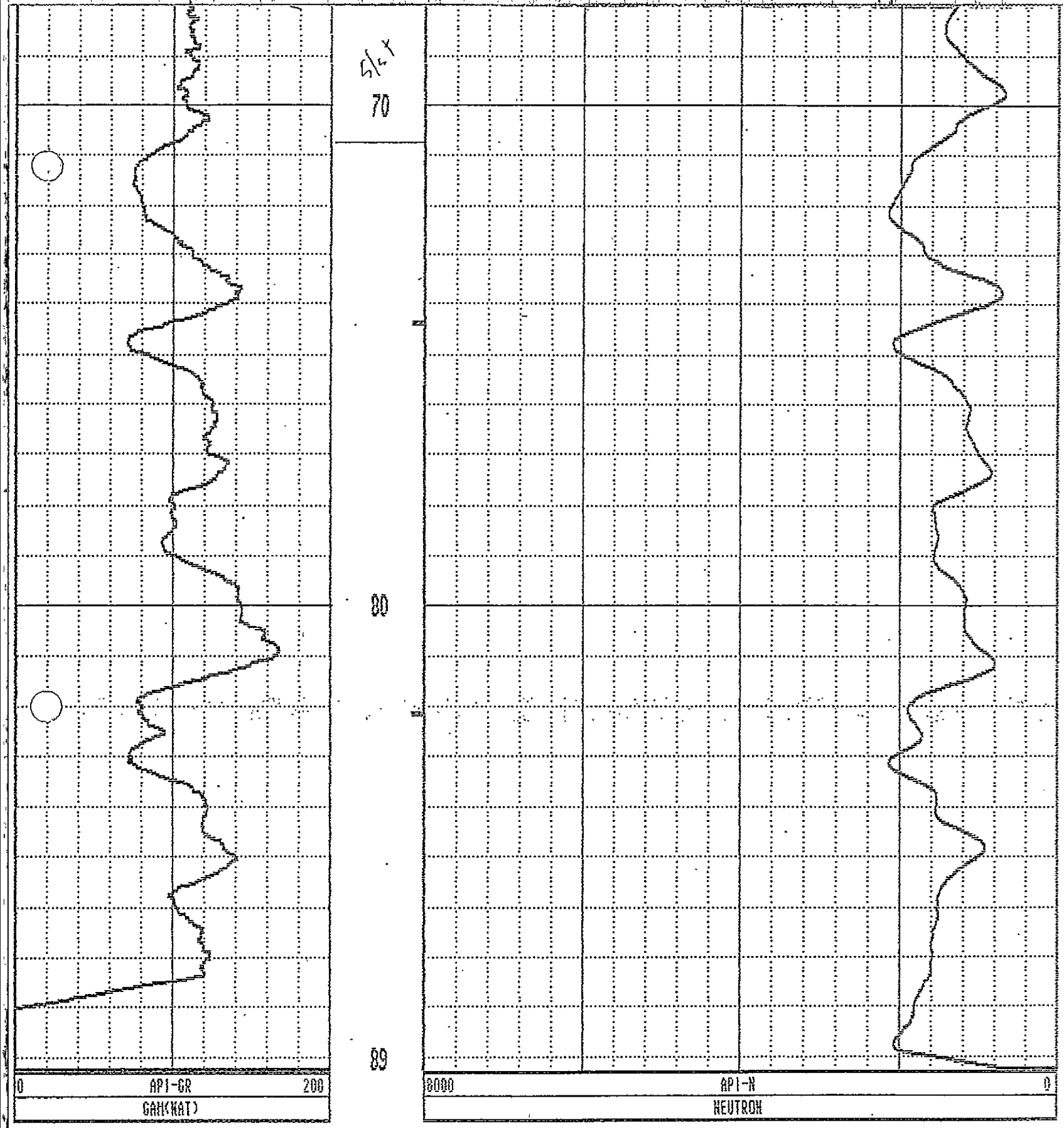
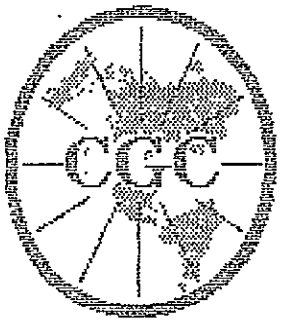
slst

mdst

WIR 94029



WRH-94029 04/06/94 255

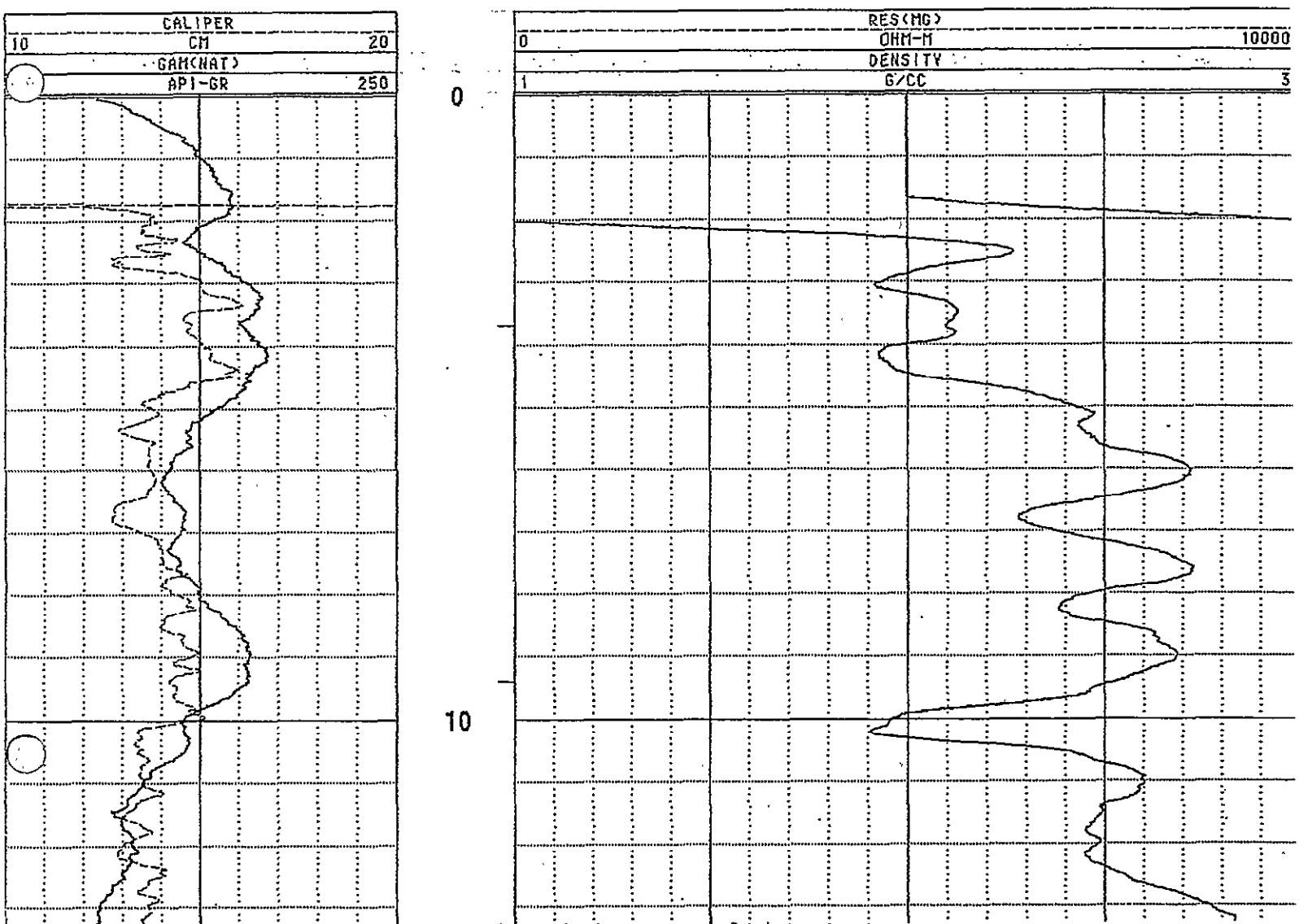


Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94029			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/06/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 100	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 99.07	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.06	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE


CALIPER
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CM
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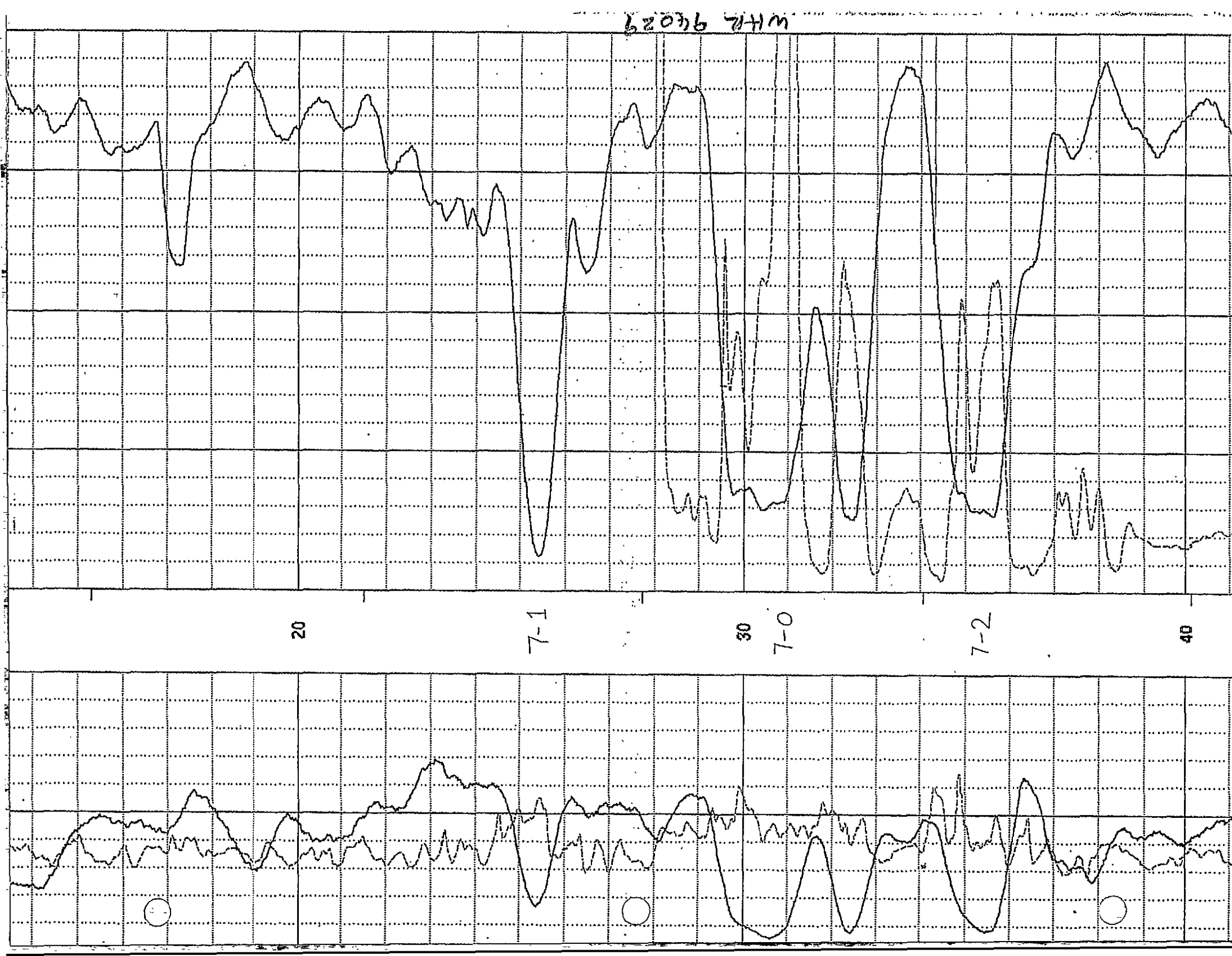
GAM(NAT)
API-GR
250
RES(MG)
0
OHM-M
10000
DENSITY
1
G/CC
3
0
10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7-1
30
7-0
7-2
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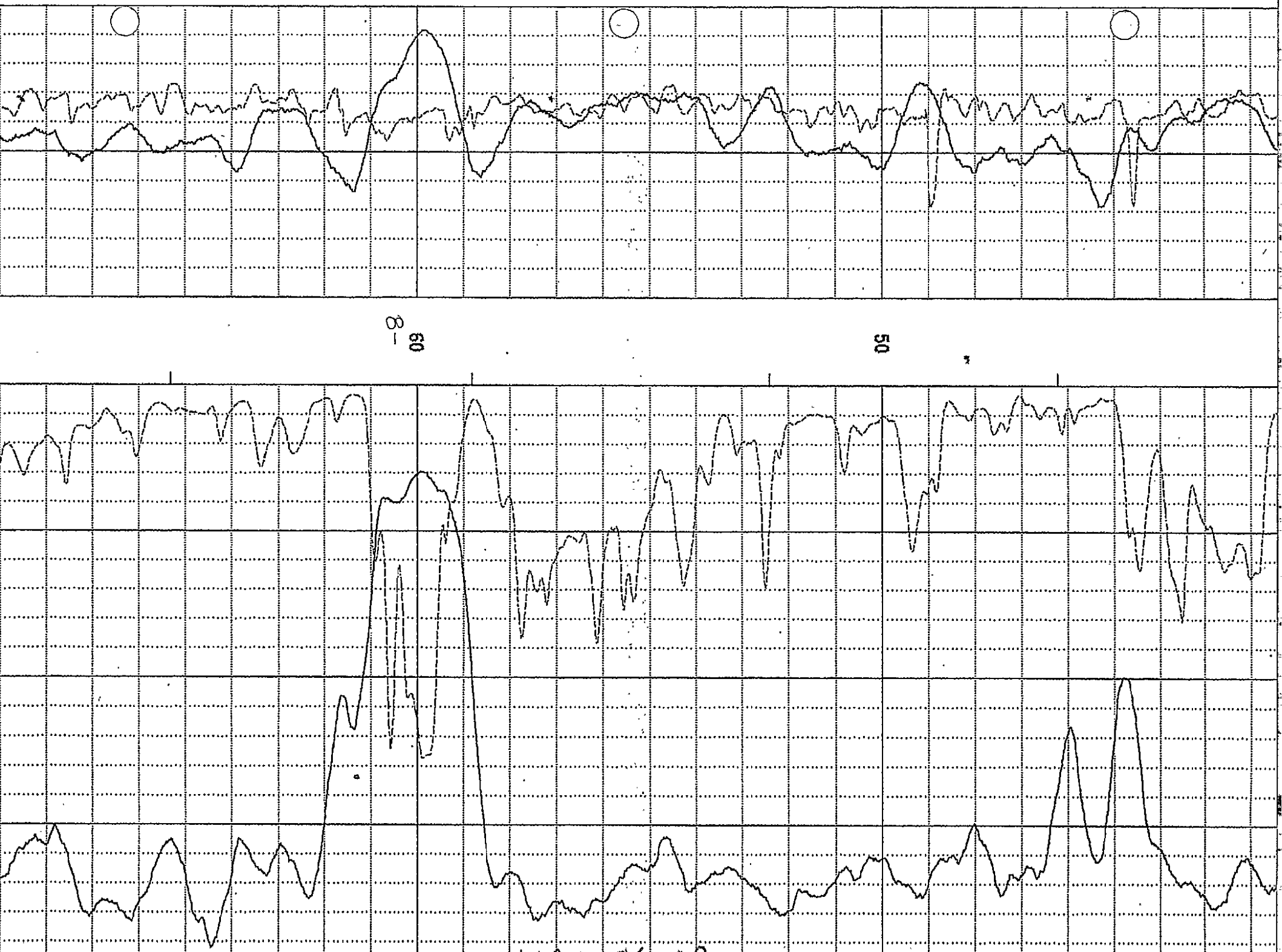
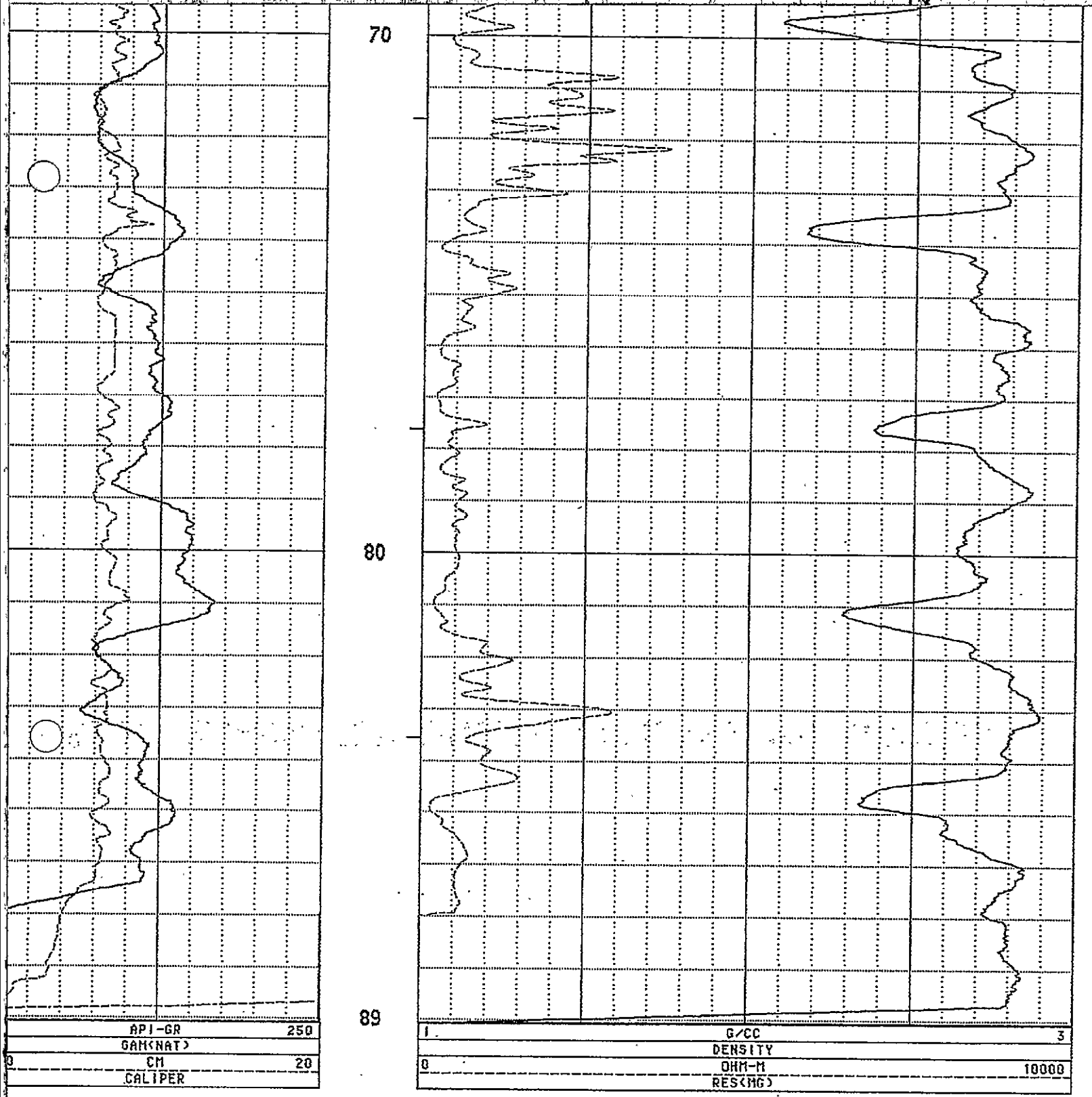

8-
60
50
WRH 94029



WRH-94029 04/06/94 440

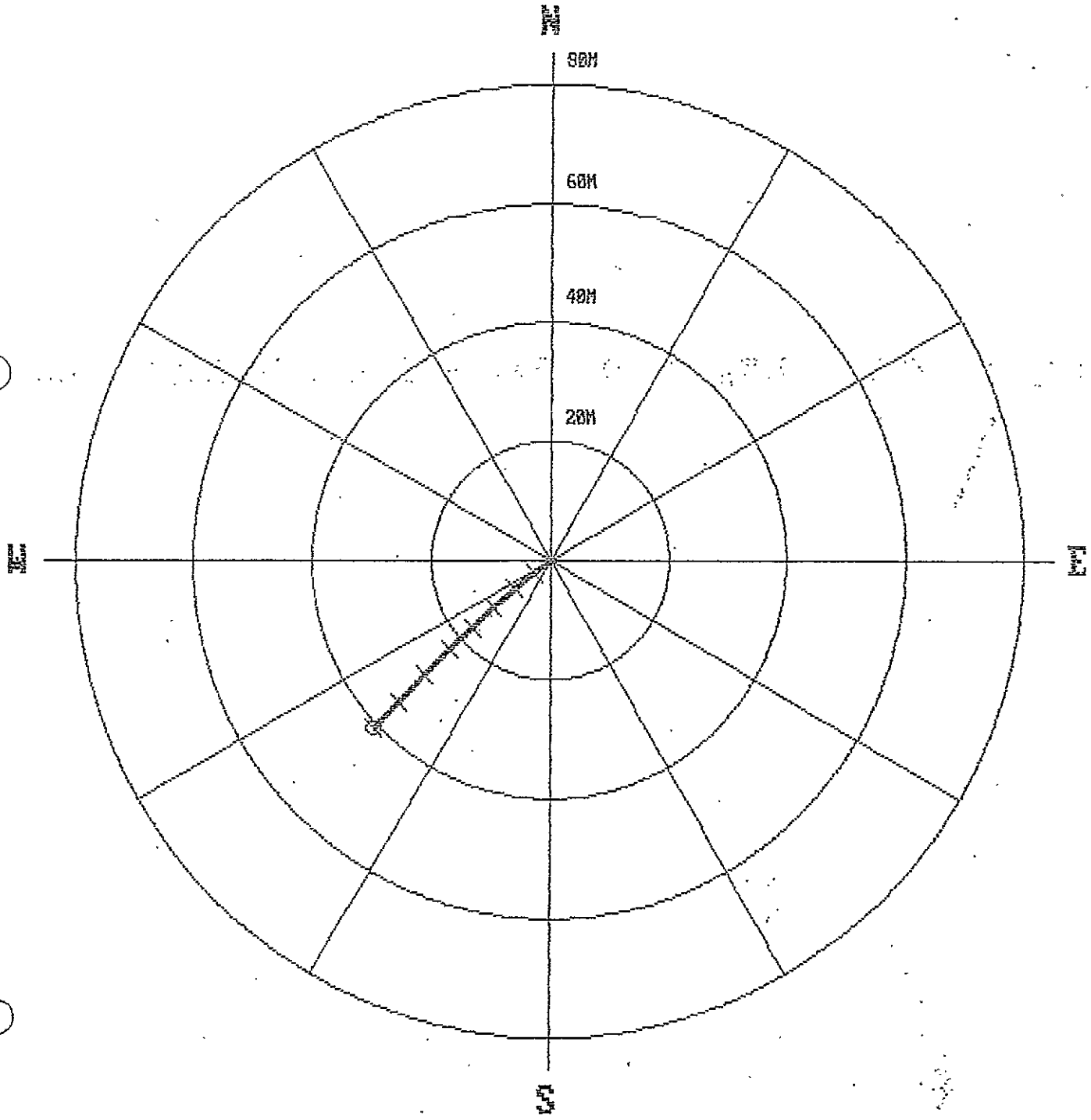
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94029
DATE OF LOG: 04/06/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 10 M/CM
TRUE DEPTH: 79.03 M
AZIMUTH: 226.5
DISTANCE: 46.5 M
+ = 10 M INCR
○ = BOTTOM OF HOLE



* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

CLIENT	: GLOBALTEX	HOLE ID.	: WRH-94029
FIELD OFFICE	: CALGARY	DATE OF LOG	: 04/06/94
DATA FROM	:	PROBE	: 9055A , 255
MAG. DECL.	: 24.500	DEPTH UNITS	: METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
2.1	2.08	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.77	-0.73	-0.82	1.1	228.1	22.3	241.0
10.0	9.38	-1.83	-2.40	3.0	232.7	22.5	233.7
15.0	14.00	-3.00	-3.94	5.0	232.7	23.0	230.4
20.0	18.59	-4.24	-5.46	6.9	232.1	23.8	230.2
25.0	23.14	-5.59	-7.03	9.0	231.5	25.4	237.3
30.0	27.64	-7.00	-8.68	11.1	231.1	25.7	226.5
35.0	32.15	-8.46	-10.28	13.3	230.6	26.0	226.8
40.0	36.64	-9.99	-11.87	15.5	229.9	26.4	225.0
45.0	41.11	-11.53	-13.47	17.7	229.5	26.8	217.6
50.0	45.54	-13.15	-15.12	20.0	229.0	28.4	228.8
55.0	49.92	-14.86	-16.83	22.5	228.6	29.4	232.6
60.0	54.25	-16.60	-18.61	24.9	228.3	29.9	226.2
65.0	58.57	-18.39	-20.37	27.4	227.9	30.2	220.6
70.0	62.85	-20.26	-22.12	30.0	227.5	32.0	228.3
75.0	67.07	-22.18	-23.98	32.7	227.2	32.4	220.0
80.0	71.27	-24.13	-25.85	35.4	227.0	33.5	217.3
85.0	75.44	-26.10	-27.73	38.1	226.7	33.8	221.5
89.4	79.03	-27.89	-29.41	40.5	226.5	34.7	226.4
90.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

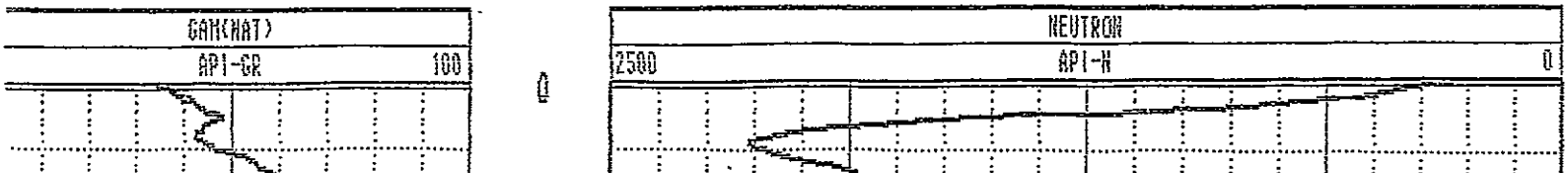
Appendix 3.22

WRH 94030

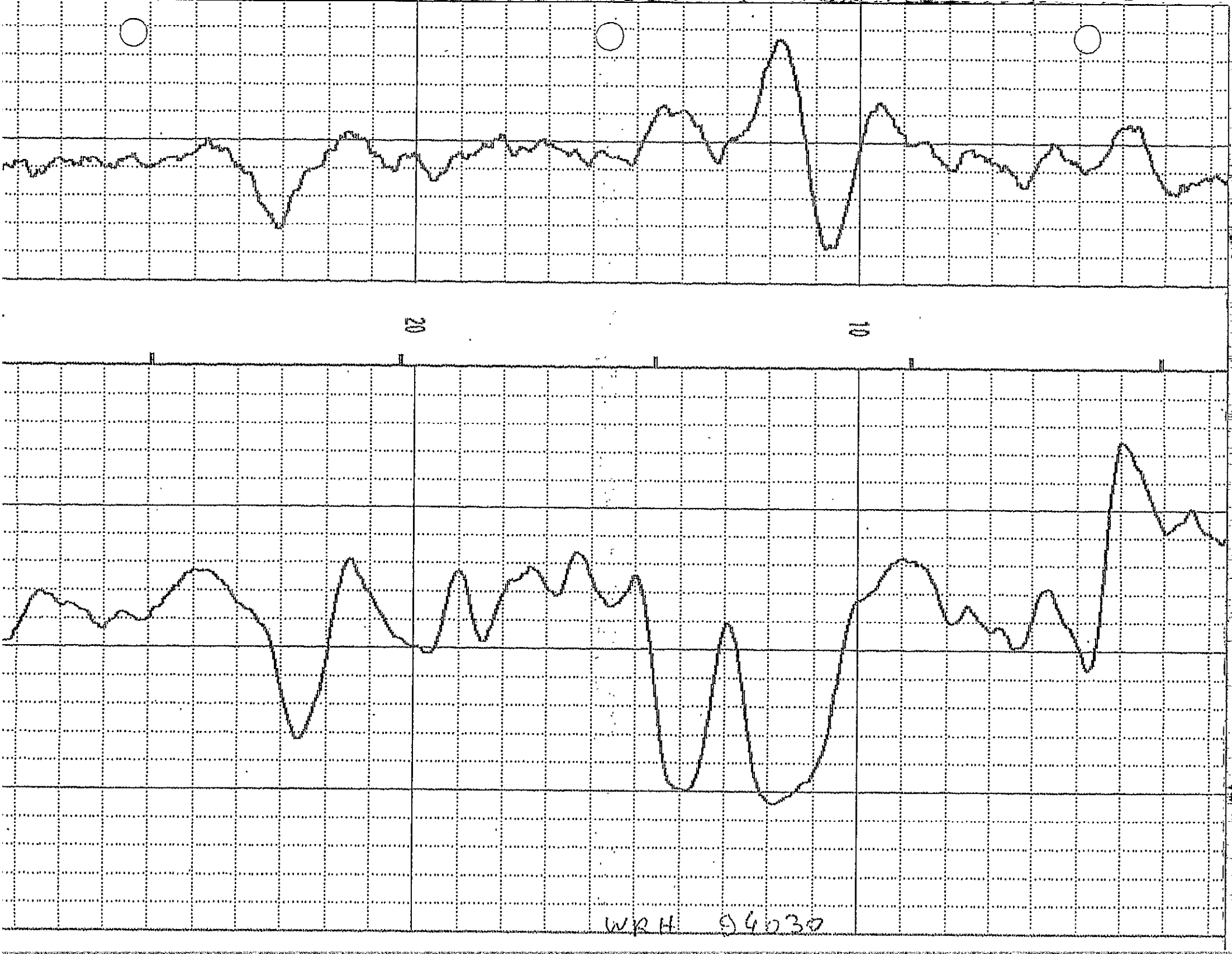
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94030			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/07/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 109.7	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 107.86	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -1.07	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEHYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				
THROUGH RODS					



WRH 94030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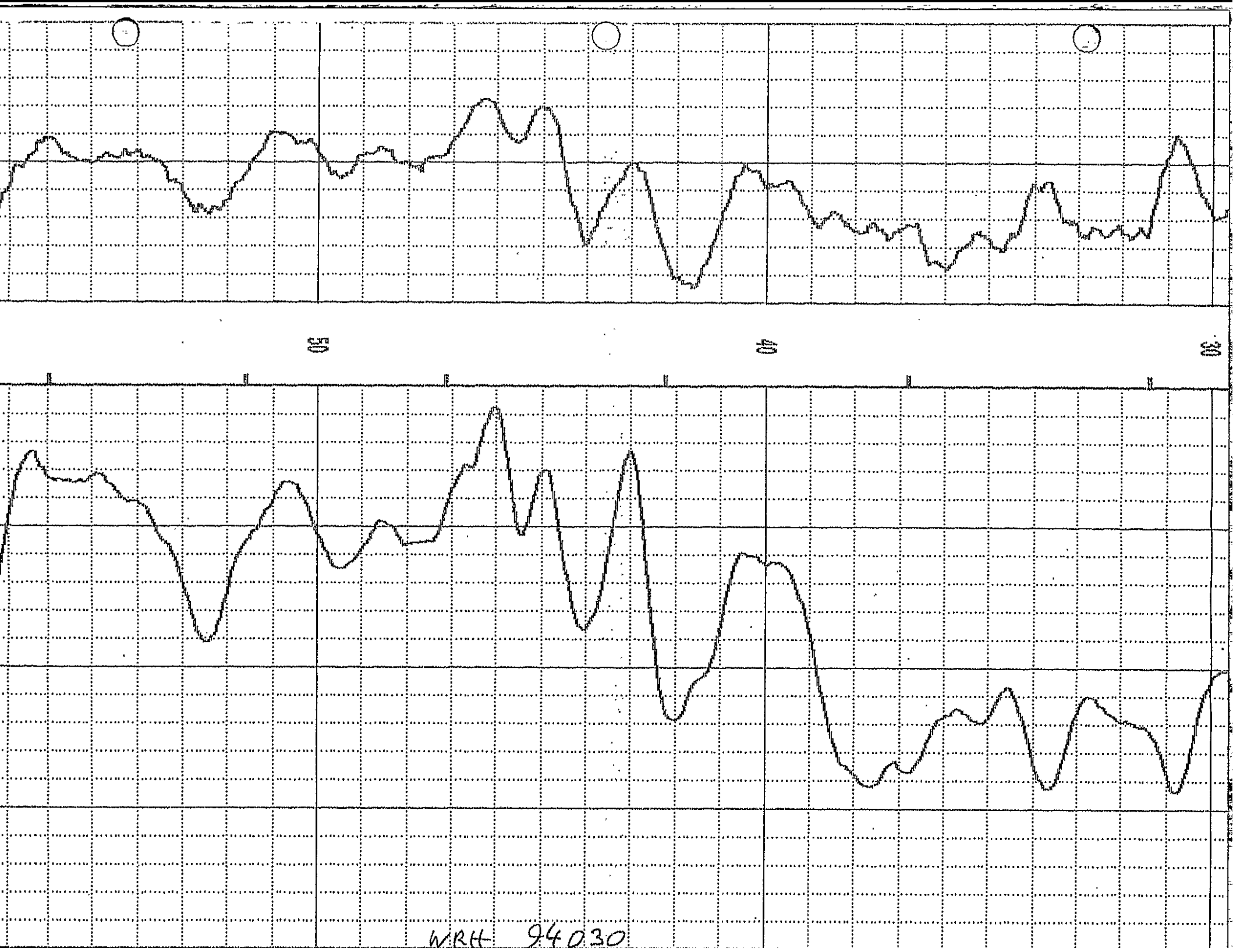
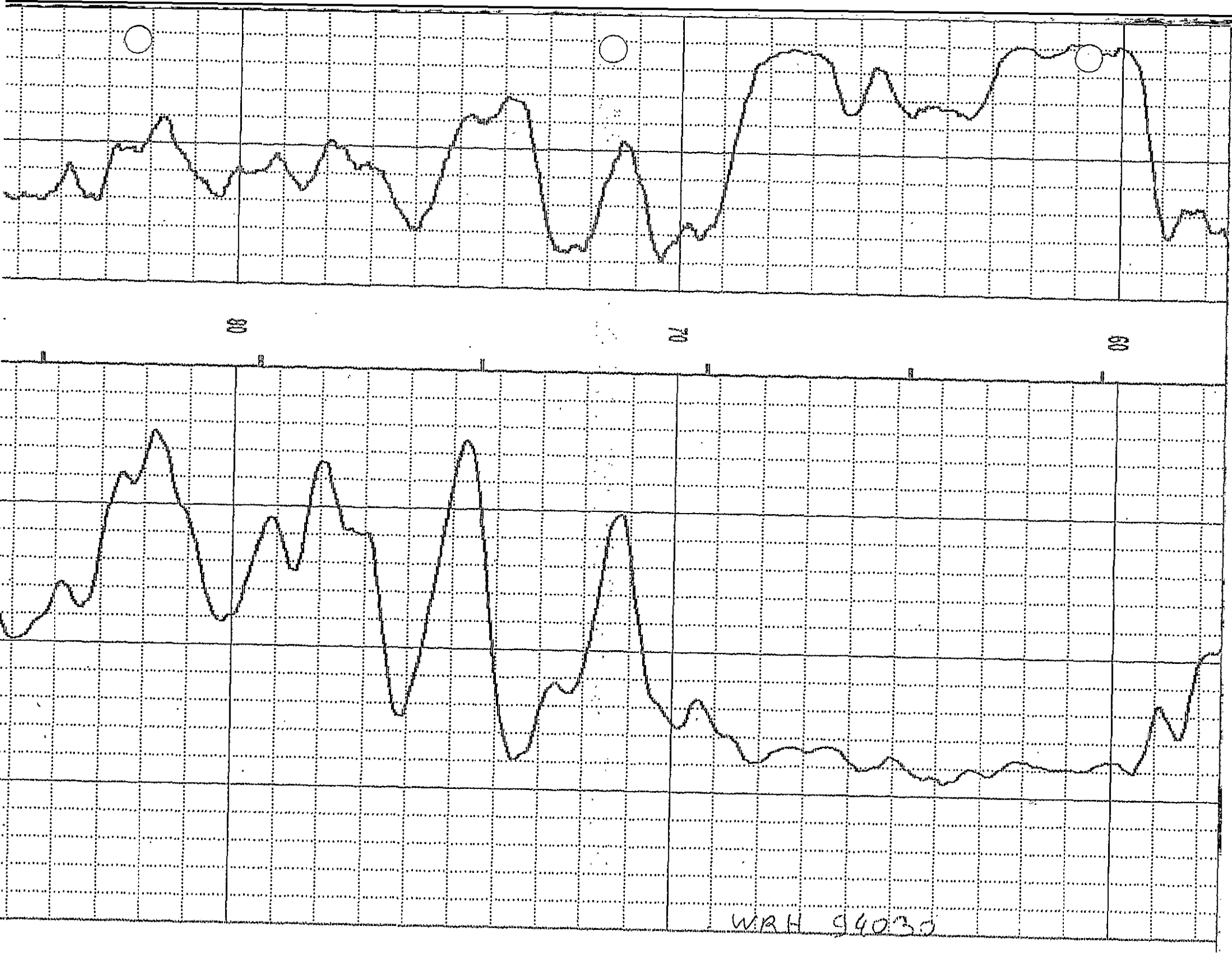
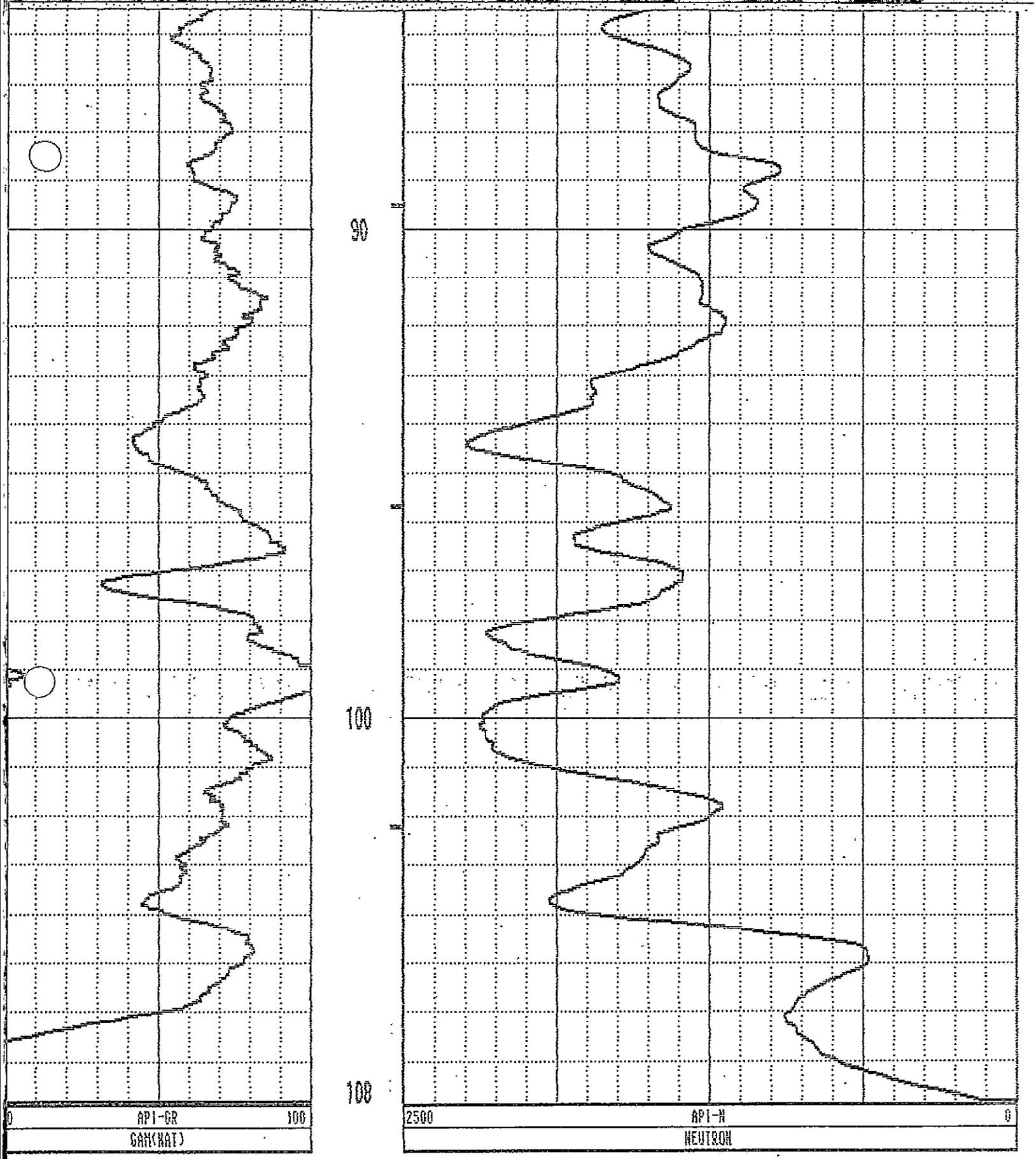
WRH 94030



WRH 94030



WRH 94035



WRH-94030 04/07/94 255

94030

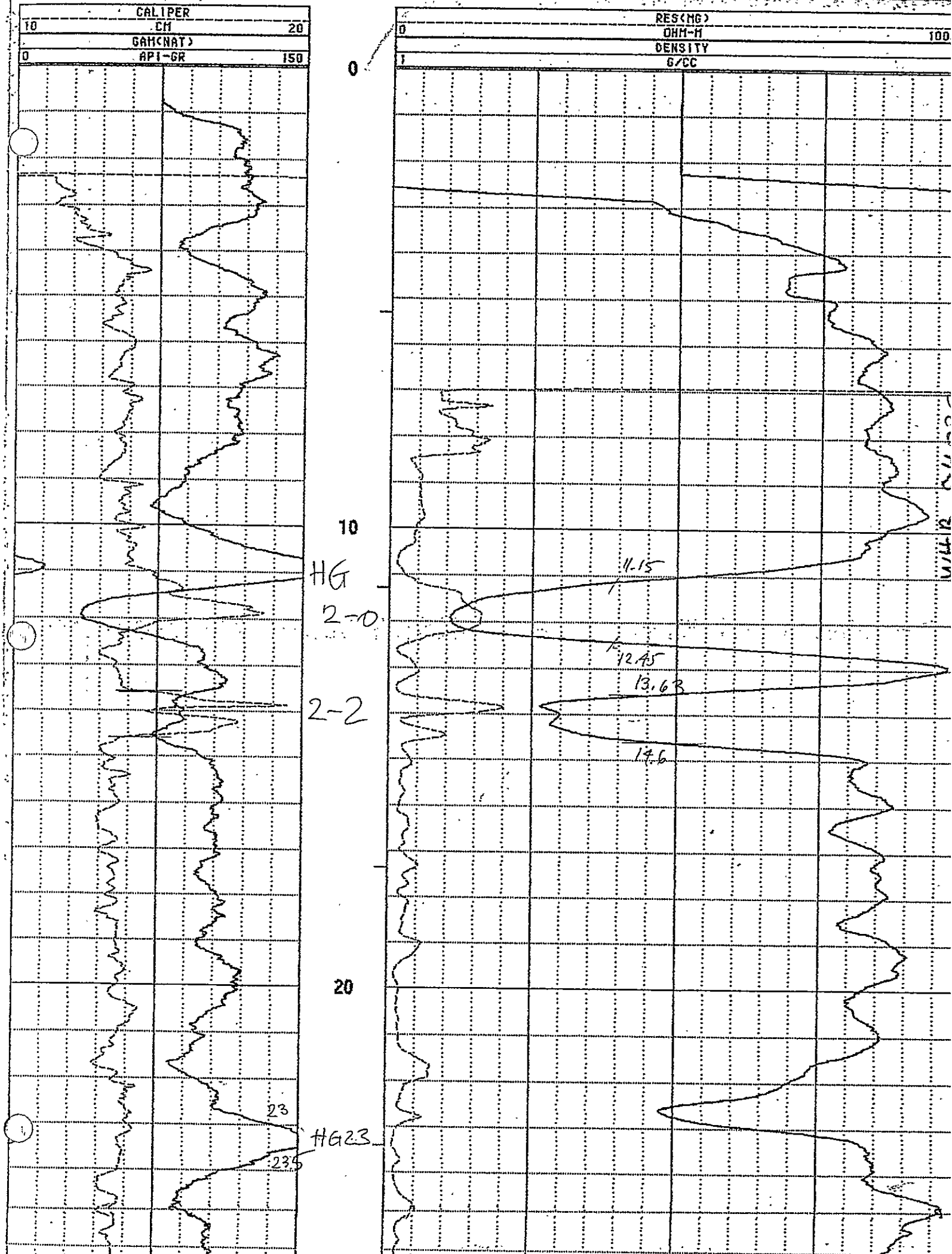
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-94030				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/07/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 109.7	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 103.46	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.76	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :
OPEN HOLE

OTHER SERVICES:
9030
9055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CM
20
GAM(NAT)
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API-GR
150
RES(HG)
0
OHM-M
100
DENSITY
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G/CC
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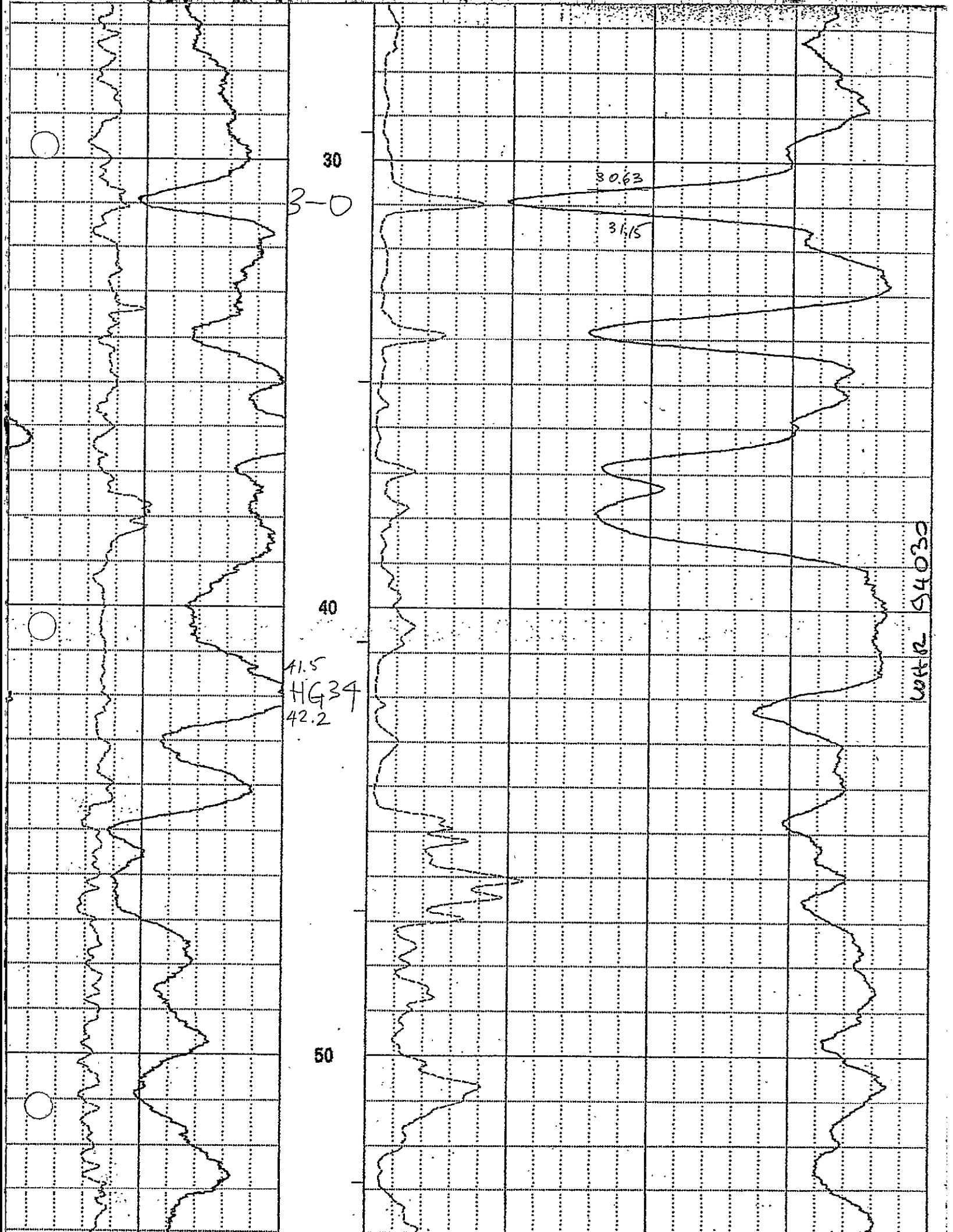
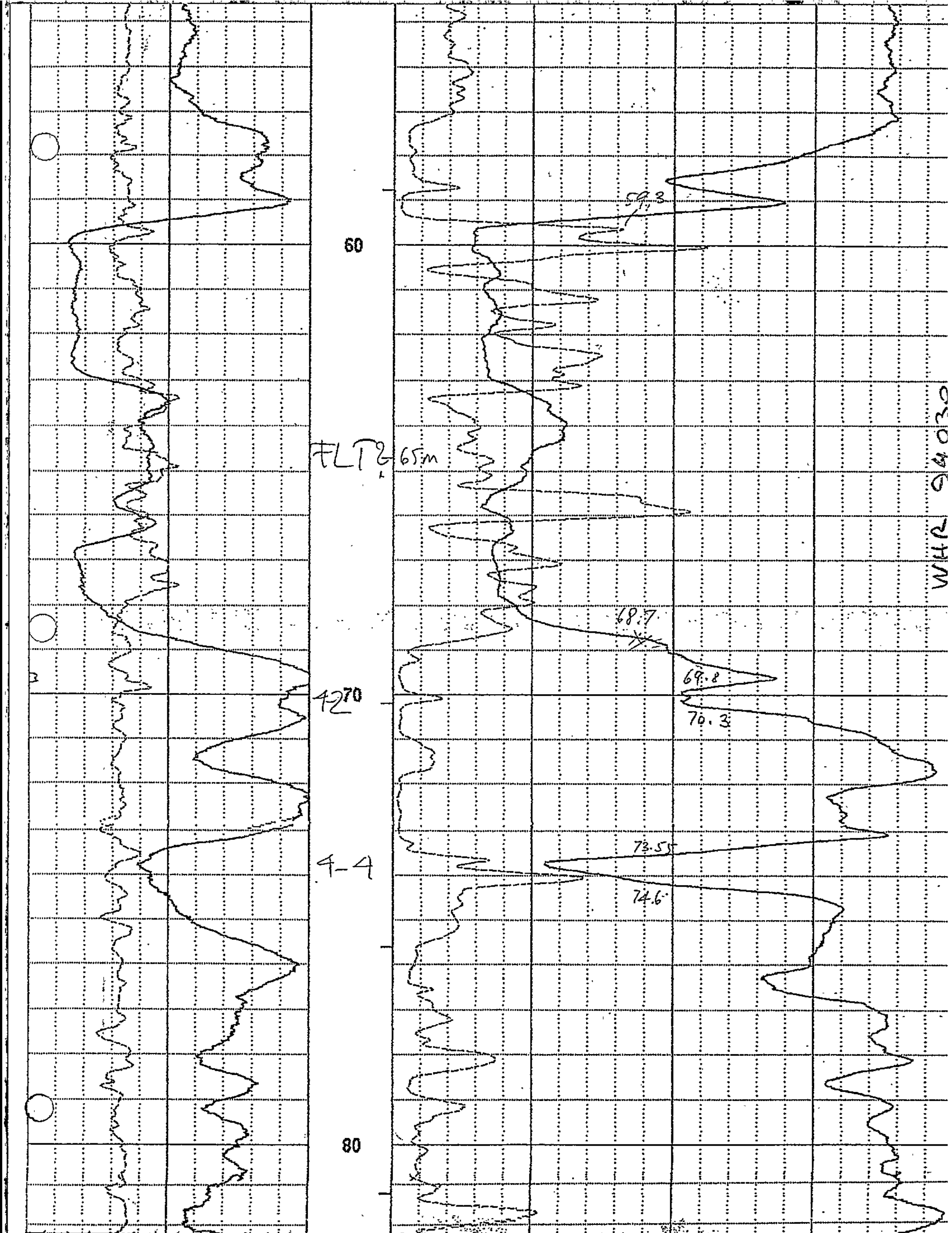
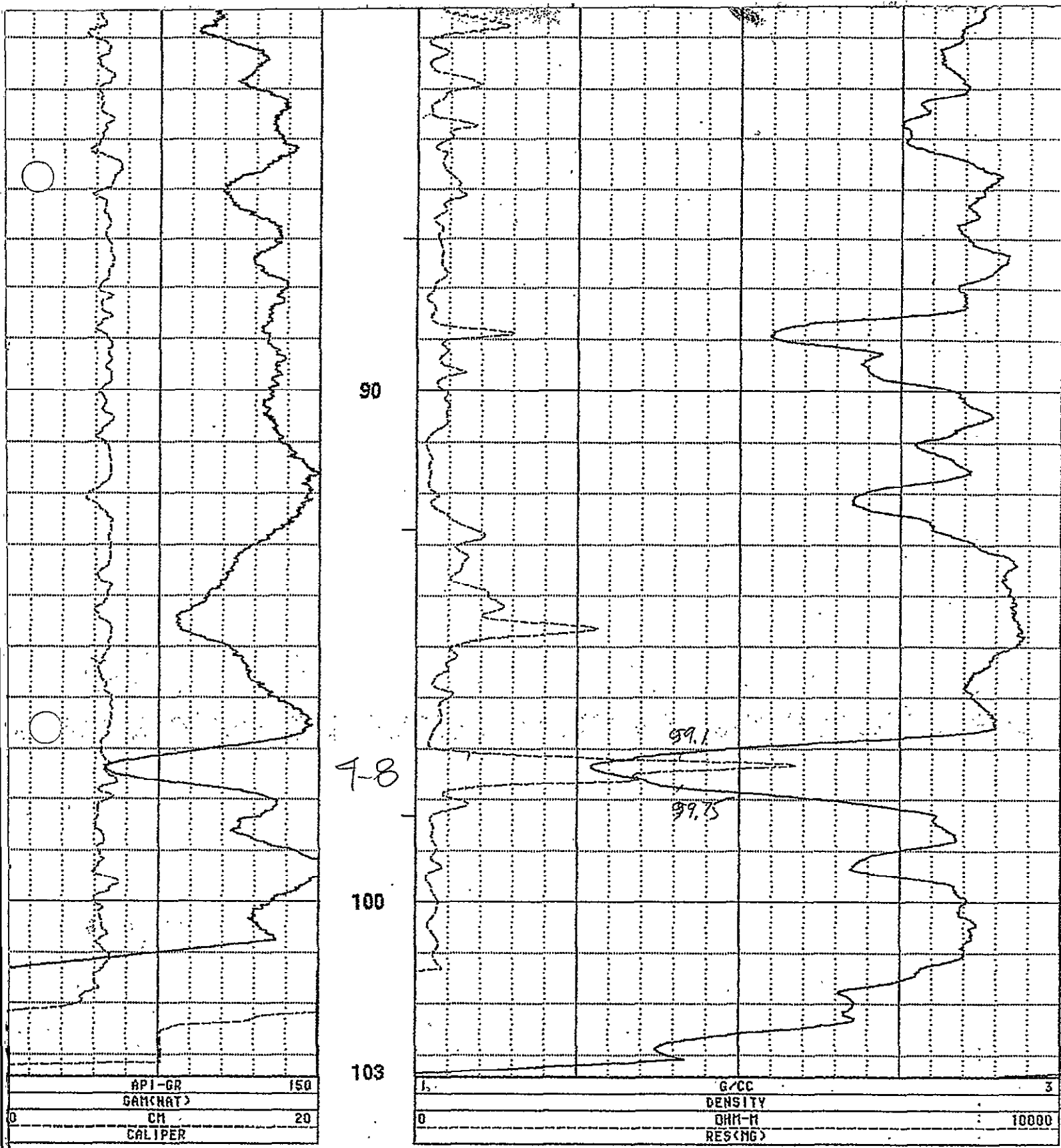
10
20
HG
2-0
2-2
11.15
12.45
13.63
14.6
23
HG23
235


30
3-0
30.63
31.15
40
41.5
HG34
42.2
WATER 4030
50


60
59.3
FLT? 65m
68.7
69.8
42
70
70.3
4-4
73.55
74.6
80
WHR 04030



WRH-94030 04/07/94 440

30

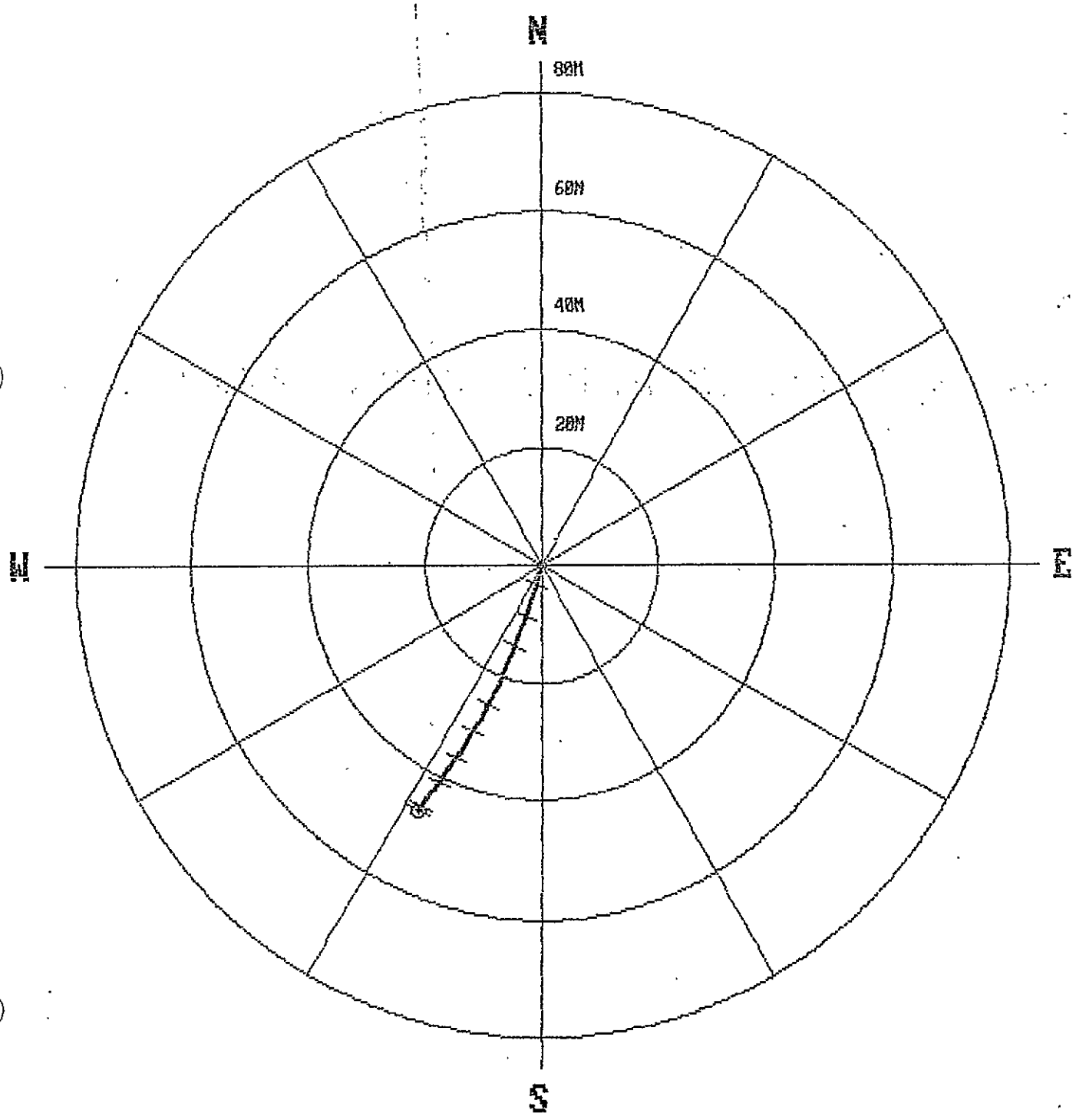
DLAN WICH

COMPU-LOG DEVIATION

NT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94030
DATE OF LOG: 04/07/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 10 M/CM
TRUE DEPTH: 91.71 M
AZIMUTH: 207.1
DISTANCE: 46.6 M
+ = 10 M INCR
○ = BOTTOM OF HOLE



* * * * * * * COMPU-LOG - VERTICAL DEVIATION * * * * * * *

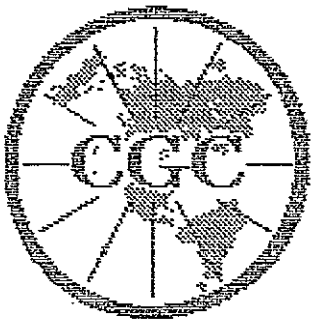
CLIENT : GLOBALTEX
FIELD OFFICE : CALGARY
DATA FROM :
MAG. DECL. : 24.500

HOLE ID. : WRH-94030
DATE OF LOG : 04/07/94
PROBE : 9055A . 255
DEPTH UNITS : METERS LOG 4

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
3.8	3.82	0.00	0.00	0.0	0.0	0.0	0.0
5.0	4.85	-0.52	-0.12	0.5	193.4	29.7	203.4
10.0	9.24	-2.81	-0.72	2.9	194.4	28.8	196.5
15.0	13.61	-5.11	-1.46	5.3	195.9	29.0	198.1
20.0	17.98	-7.39	-2.28	7.7	197.1	29.1	203.7
25.0	22.36	-9.66	-3.11	10.1	197.8	28.8	195.5
30.0	26.74	-11.91	-3.97	12.6	198.4	28.8	201.6
35.0	31.12	-14.14	-4.86	15.0	199.0	28.8	204.7
40.0	35.49	-16.36	-5.81	17.4	199.5	29.0	205.5
45.0	39.87	-18.57	-6.79	19.8	200.1	28.7	203.6
50.0	44.26	-20.73	-7.77	22.1	200.6	28.5	198.7
55.0	48.67	-22.83	-8.83	24.5	201.2	28.2	204.7
60.0	53.07	-24.89	-9.96	26.8	201.8	28.3	208.1
65.0	57.48	-26.90	-11.16	29.1	202.5	28.4	217.5
70.0	61.91	-28.84	-12.42	31.4	203.3	27.3	219.4
75.0	66.35	-30.77	-13.63	33.6	203.9	27.4	205.2
80.0	70.77	-32.70	-14.92	35.9	204.5	27.9	215.8
85.0	75.20	-34.60	-16.23	38.2	205.1	27.6	218.9
90.0	79.63	-36.48	-17.55	40.5	205.7	27.2	219.3
95.0	84.07	-38.35	-18.87	42.7	206.2	27.4	216.7
100.0	88.52	-40.17	-20.24	45.0	206.7	27.0	213.8
103.6	91.71	-41.46	-21.20	46.6	207.1	27.0	221.1
105.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0

Appendix 3.23

WRH 94031



Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX					
WELL	: WRH-94031					
LOCATION/FIELD	: WILLOW CREEK					
COUNTY	: CHETWYND					
STATE	: B.C.					
SECTION	:	TOWNSHIP	:		RANGE	:
DATE	: 04/09/94	PERMANENT DATUM	: GL		ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:		KB	:
LOG BOTTOM	: 64.32	LOG MEASURED FROM	: GL		DF	:
LOG TOP	: 1.47	DRL MEASURED FROM	: GL		GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903			
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY			
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ			
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER		FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:		TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:		LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173		PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690		THRESH	: 30000
REMARKS	:					

OTHER SERVICES:
9030
9055

OPEN HOLE

GAM(RAT)

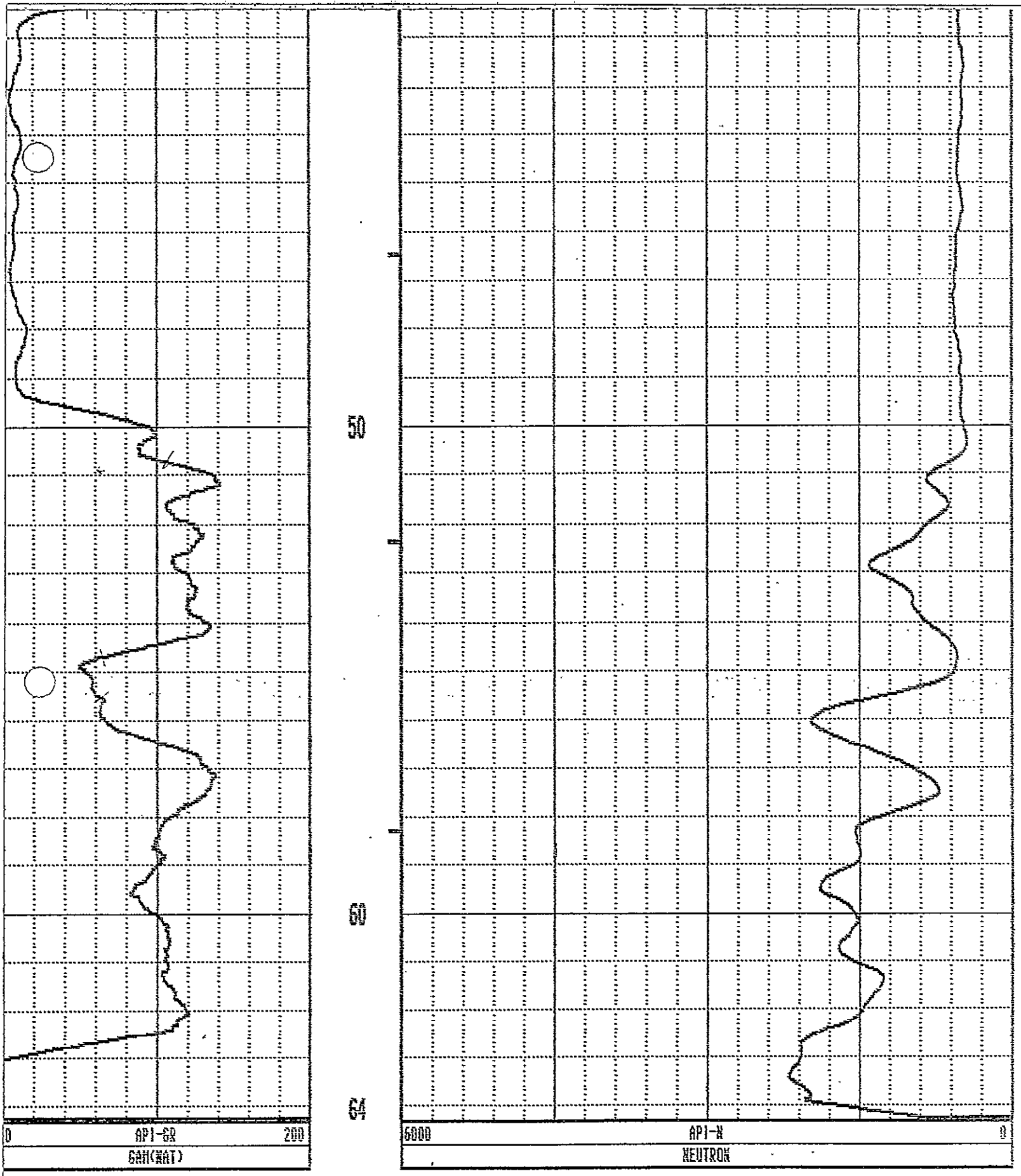
API-GR 200

0

10

NEUTRON

6000 API-N



WRH-94031 04/09/94 255

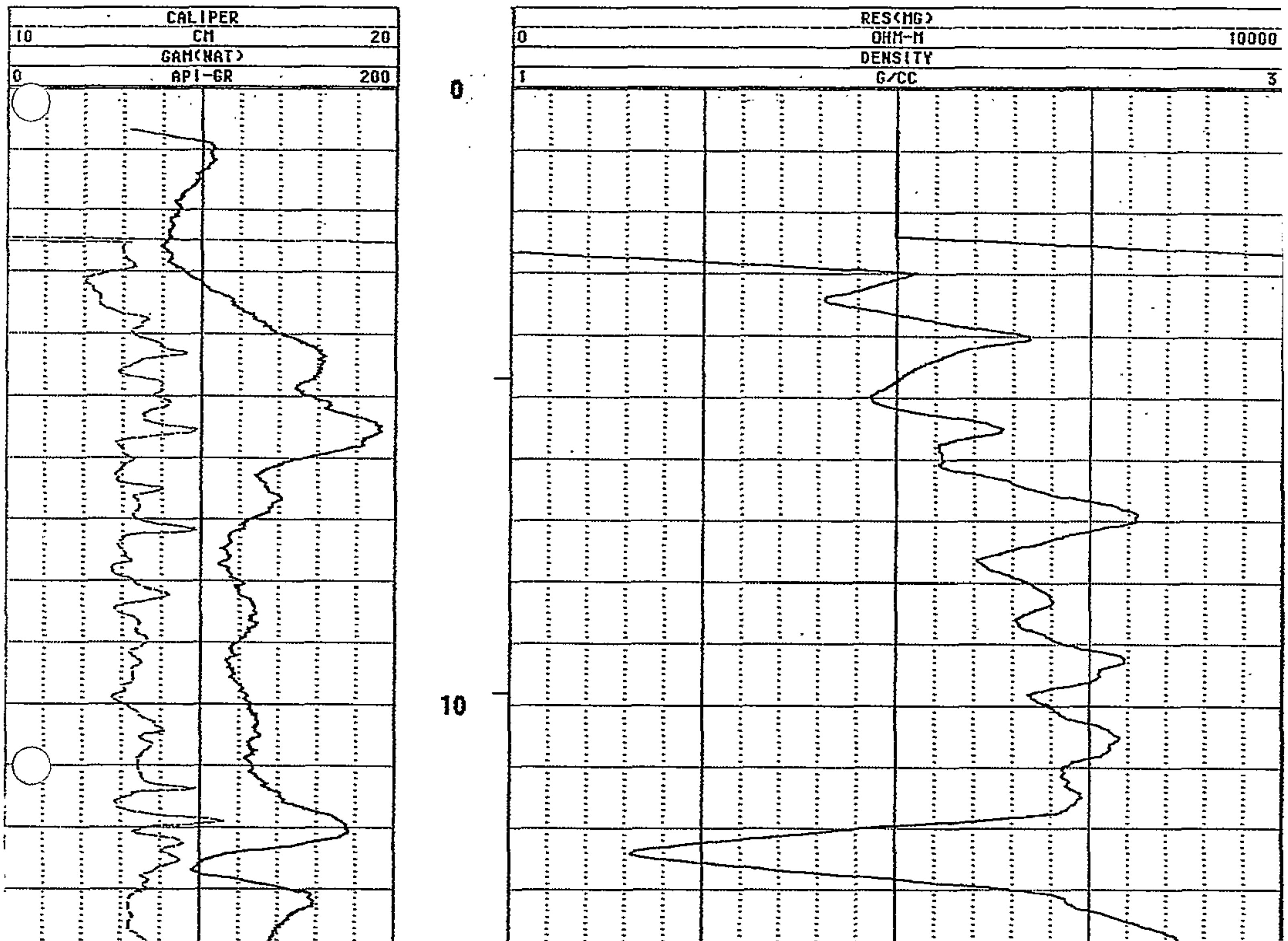
Century GEOPHYSICAL CORP.

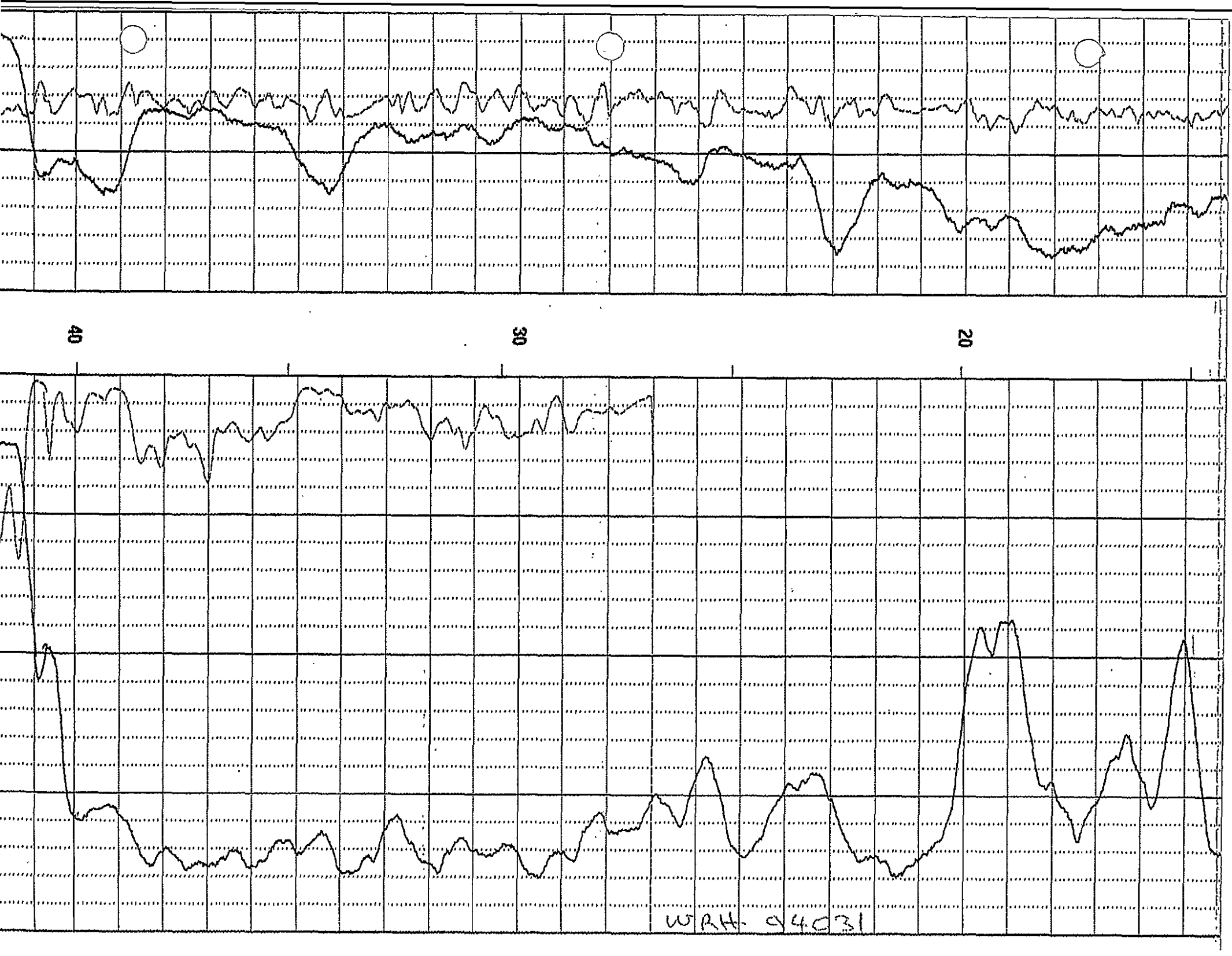
GAMMA-RES-DENSITY

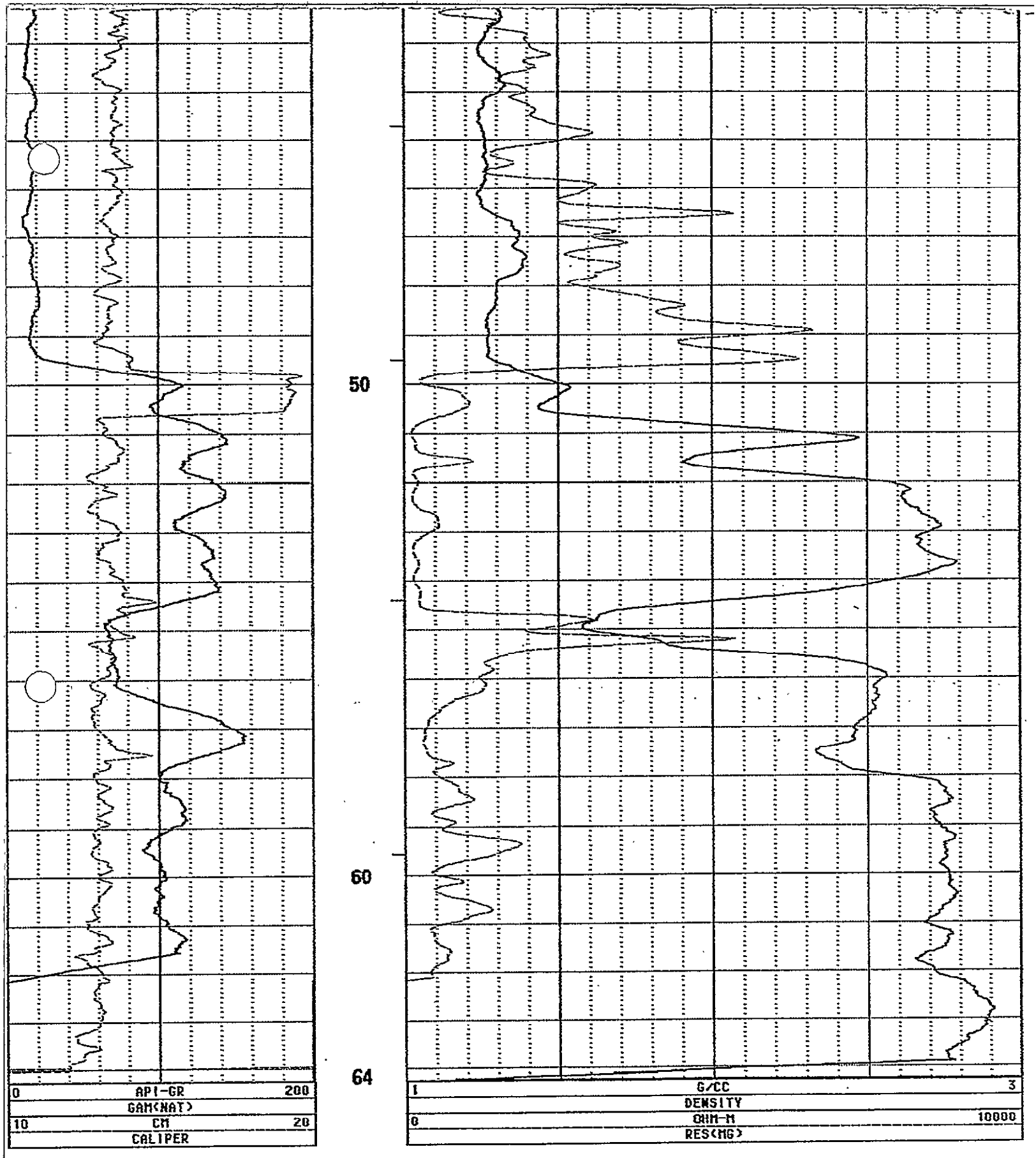
COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: NRH-94031			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/09/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 64.26	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.70	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000

REMARKS :
OPEN HOLE

WRH 94031


CALIPER
10 CM 20
GAM(NAT)
0 API-GR 200
0
10
RES(MG)
0 OHM-M 10000
DENSITY
1 G/CC 3


40
30
20
WRH-94031



WRH-94031 04/09/94 440

Appendix 3.24

WRH 94032

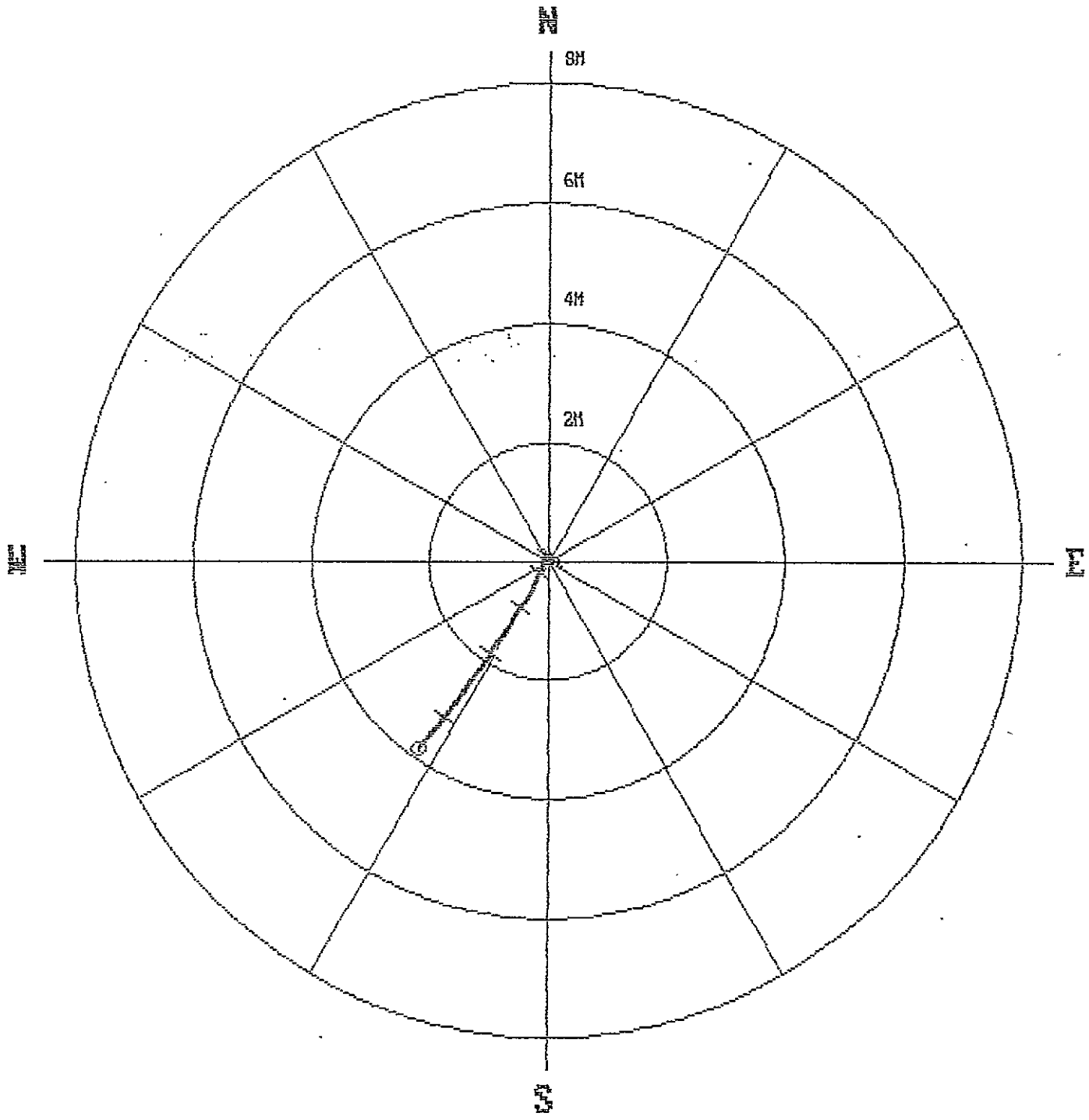
PLAN VIEW

COMPU-LOG DEVIATION

CLIENT: GLOBALTEX
LOCATION: WILLOW CREEK
HOLE ID: WRH-94032
DATE OF LOG: 04/09/94
PROBE: 9055A 255

MAG DECL: 24.5

SCALE: 1 M/CM
TRUE DEPTH: 74.49 M
AZIMUTH: 214.6
DISTANCE: 3.8 M
+ = 10 M INCR
○ = BOTTOM OF HOLE



* * * * * * COMPU-LOG - MINE COORDINATES * * * * * * *

CLIENT	: GLOBALTEX	HOLE ID.	: WRH-94032
FIELD OFFICE	: CALGARY	DATE OF LOG	: 04/09/94
DATA FROM	:	PROBE	: 9055A , 255
MAG. DECL.	: 24.500	DEPTH UNITS	: METERS LOG 5

Survey Reference Point : OPEN HOL

Mine Coordinates Location: North/South: 0.0
East/West: 0.0
Elevation: 0.0

FINAL DATA

Meas. Depth (feet)	SANG (degress)	SANGB (degress)	Disp (feet)	Zero Coordinates TVD	Zero Coordinates N/S	Zero Coordinates E/W	Mine Coordinates TVD	Mine Coordinates N/S	Mine Coordinates E/W
3	0.0	0.0	0.0	2.7	0.0	0.0	2.7	0.0	0.0
5	0.5	120.7	0.0	5.0	0.0	0.0	5.0	0.0	0.0
10	0.3	54.0	0.1	10.0	0.0	0.1	10.0	0.0	0.1
15	0.6	320.9	0.1	15.0	0.1	0.1	15.0	0.1	0.1
20	0.4	317.5	0.1	20.0	0.1	0.1	20.0	0.1	0.1
25	0.3	262.0	0.1	25.0	0.1	0.0	25.0	0.1	0.0
30	1.3	222.5	0.1	30.0	0.1	-0.0	30.0	0.1	-0.0
35	1.4	183.4	0.1	35.0	0.0	-0.1	35.0	0.0	-0.1
40	3.2	203.9	0.2	40.0	-0.2	-0.1	40.0	-0.2	-0.1
45	4.3	215.8	0.5	45.0	-0.5	-0.3	45.0	-0.5	-0.3
50	4.7	213.5	0.9	50.0	-0.8	-0.5	50.0	-0.8	-0.5
55	5.2	209.5	1.3	55.0	-1.1	-0.7	55.0	-1.1	-0.7
60	6.4	214.0	1.8	59.9	-1.6	-1.0	59.9	-1.6	-1.0
65	7.6	217.7	2.4	64.9	-2.1	-1.3	64.9	-2.1	-1.3
70	8.0	214.5	3.1	69.8	-2.6	-1.7	69.8	-2.6	-1.7
75	8.8	220.2	3.8	74.5	-3.1	-2.2	74.5	-3.1	-2.2
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Closure - Zero Coord.: 0.0 @ 180.0
Mine Coord.: 0.0 @ 0.0

94-32

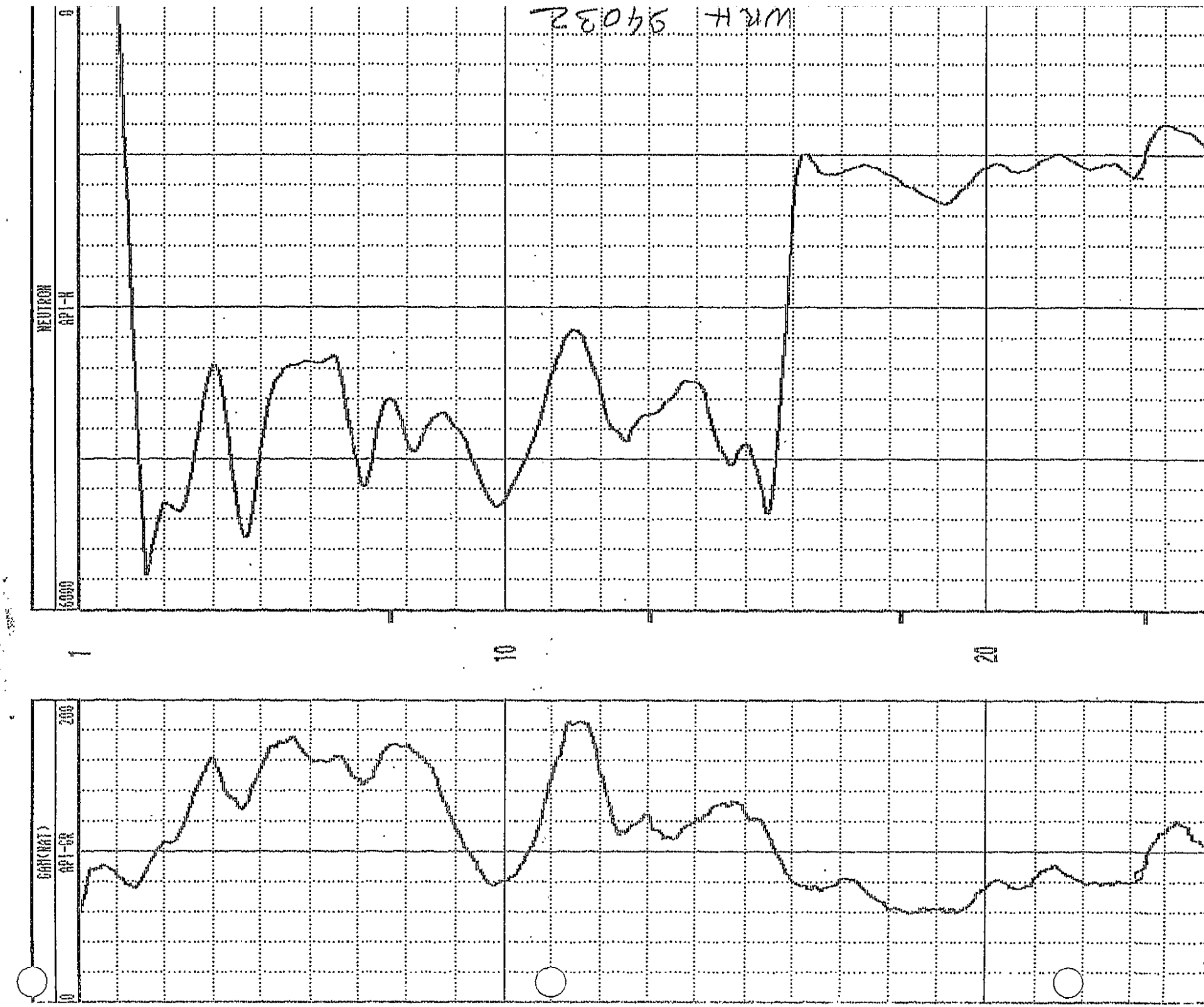
Century GEOPHYSICAL CORP.

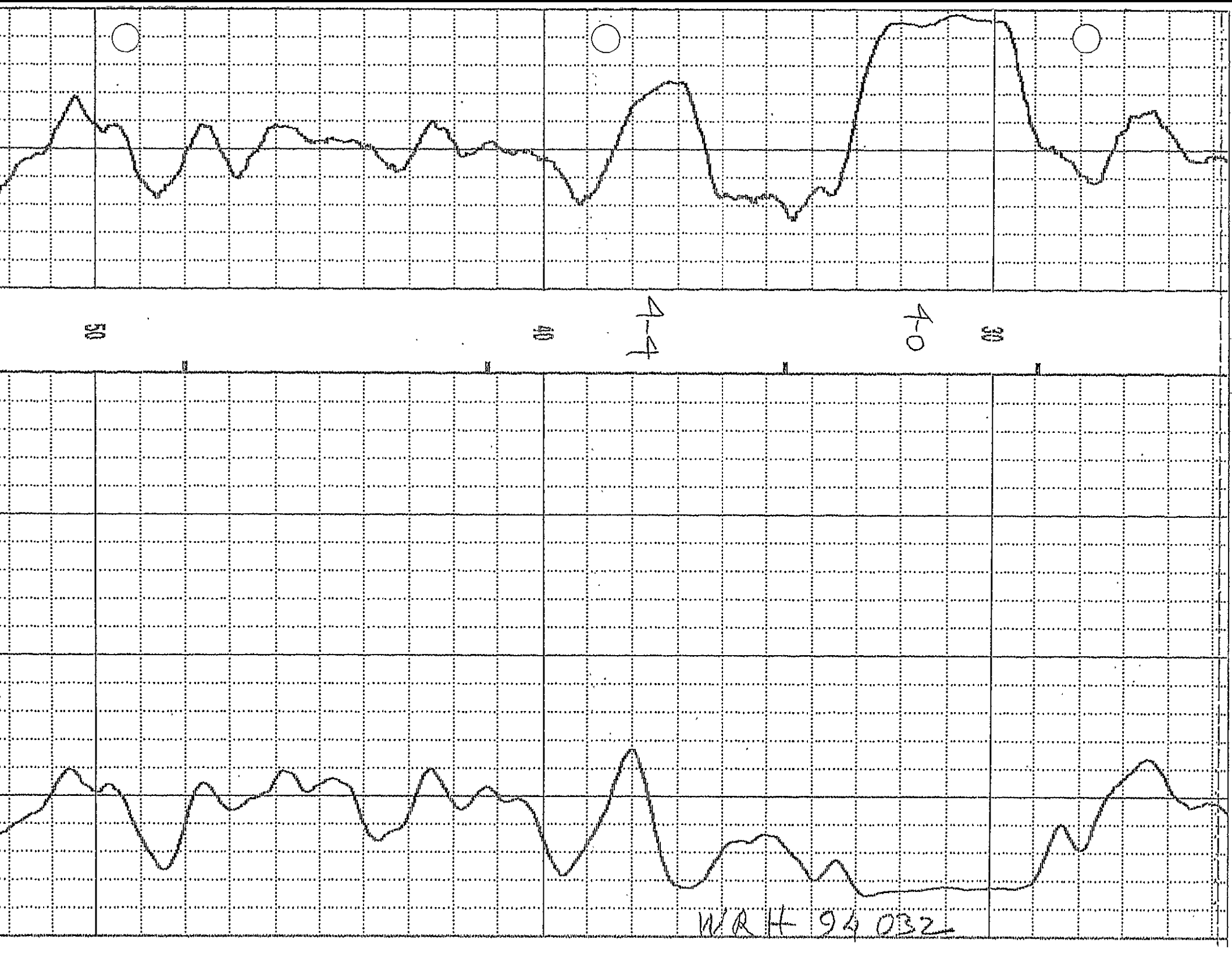
GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-94032				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/09/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 74.74	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 1.25	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LENYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

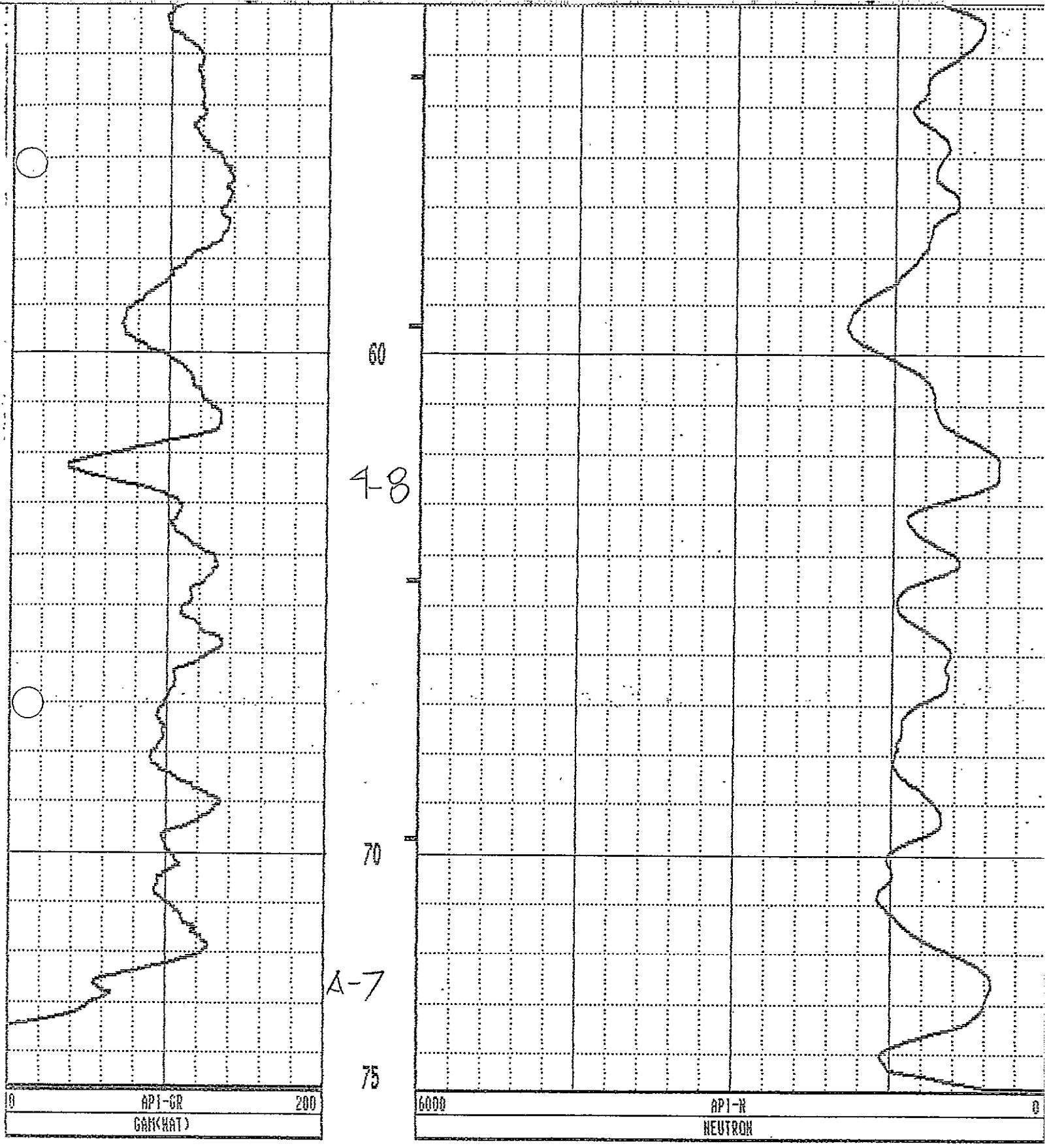
OTHER SERVICES:
9030
9055

OPEN HOLE

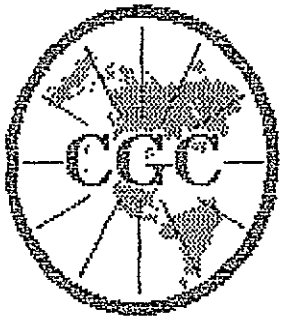

NEUTRON
API-N
0
6000
1
10
20
GAM(KAT)
API-GR
200
0



WRH 94 032



WRH-94032 04/09/94 255



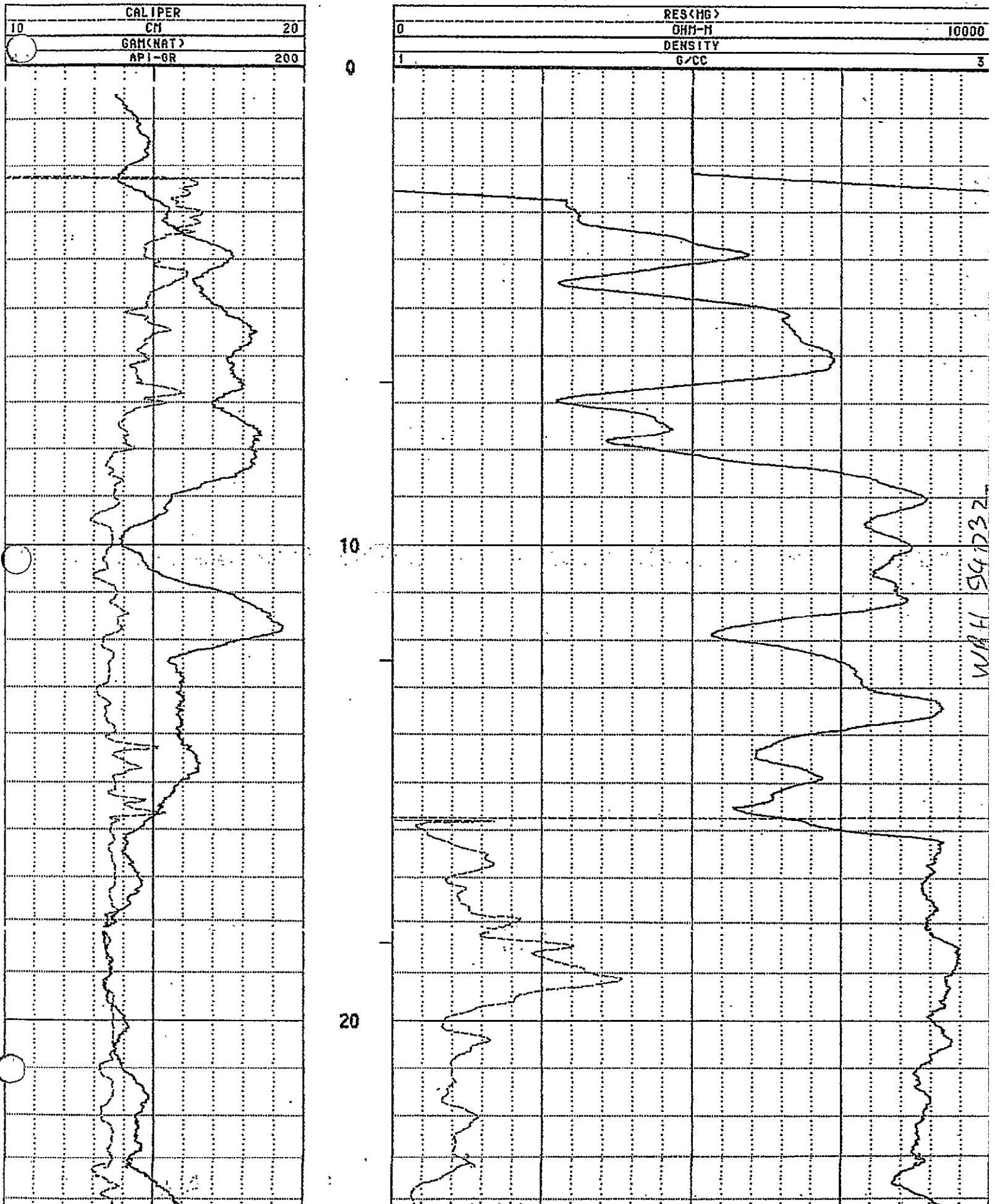
Century GEOPHYSICAL CORP.

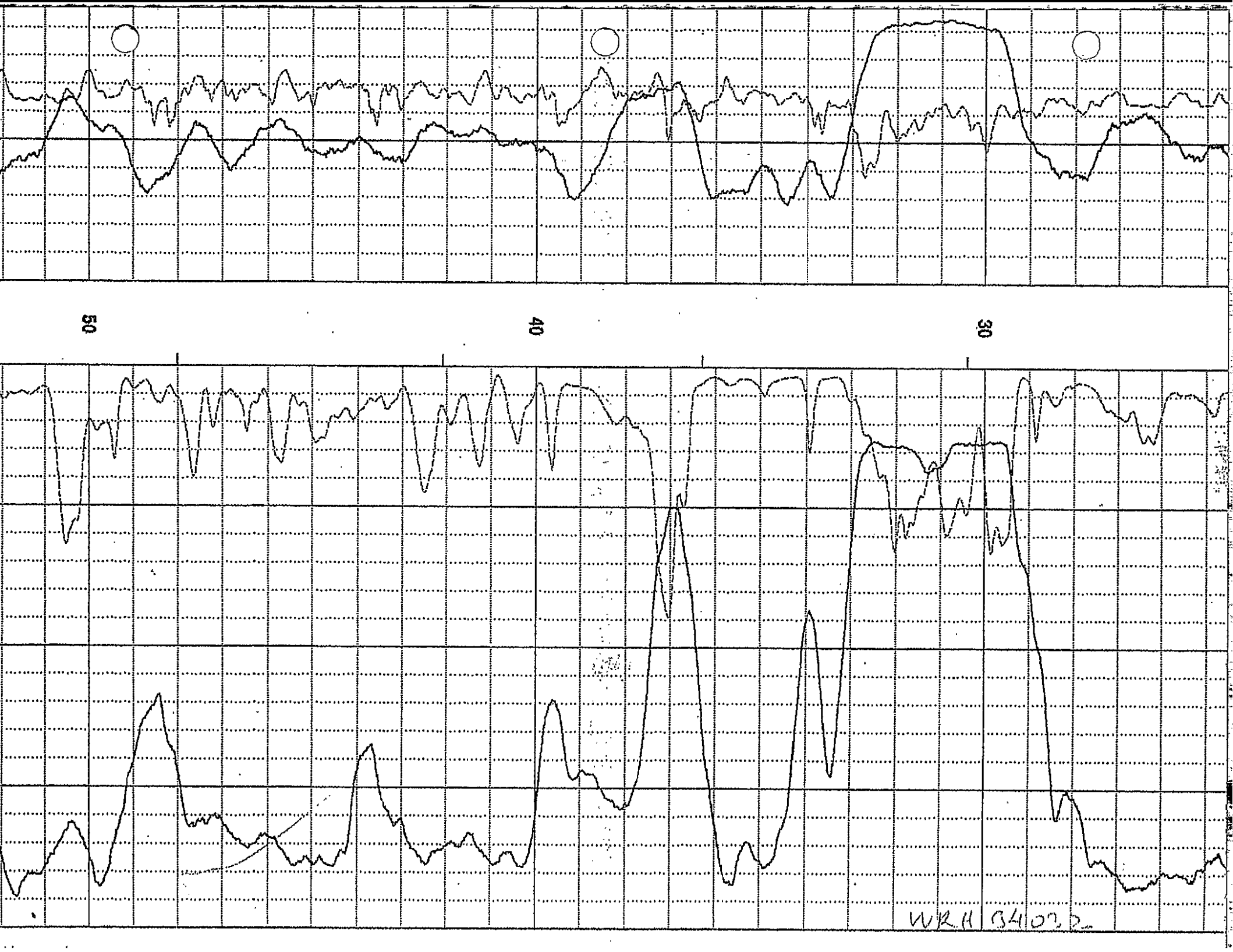
GAMMA-RES-DENSITY

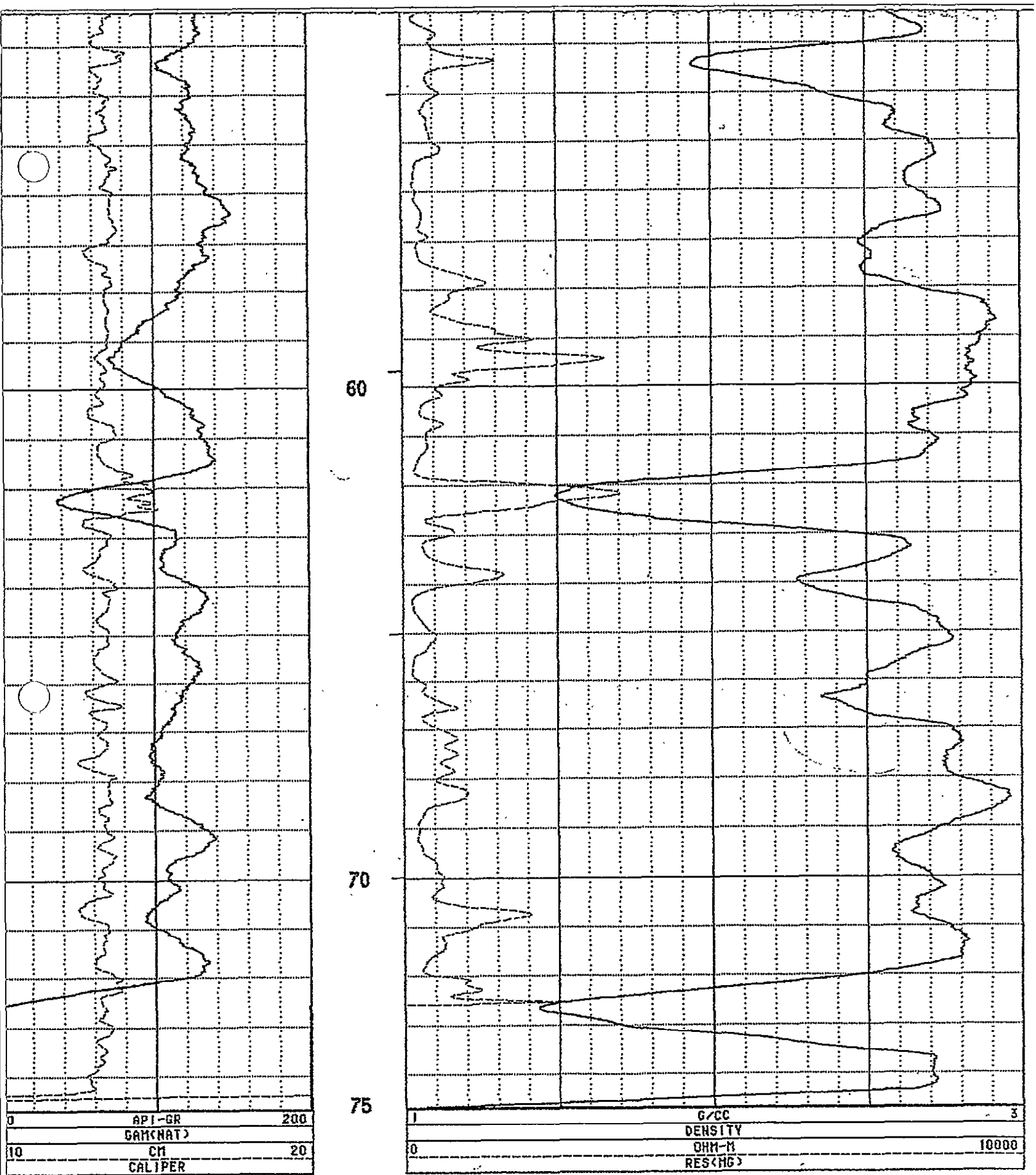
COMPANY	: GLOBALTEX				
WELL	: WRH-94032				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/09/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 80	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 74.70	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.54	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055


CALIPER
10
CM
20
GAM(NAT)
API-GR
200
RES(HG)
0
OHM-M
10000
DENSITY
1
G/CC
3
0
10
20
WELL 94-1232


50
40
30
WRH 34027



WRH-94032 04/09/94 440

Appendix 3.25

WRH 94033

Century GEOPHYSICAL CORP.

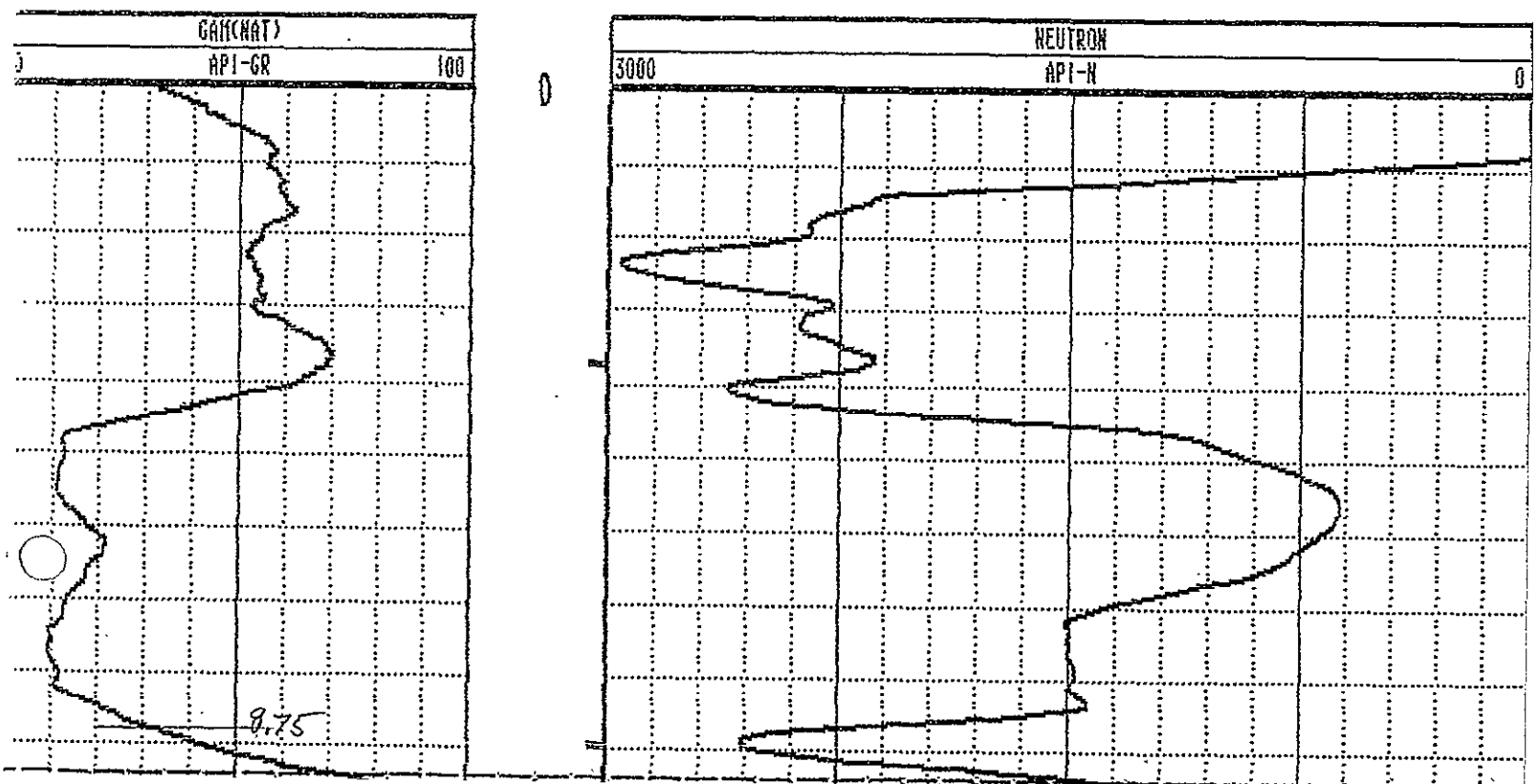
GAMMA-NEUTRON

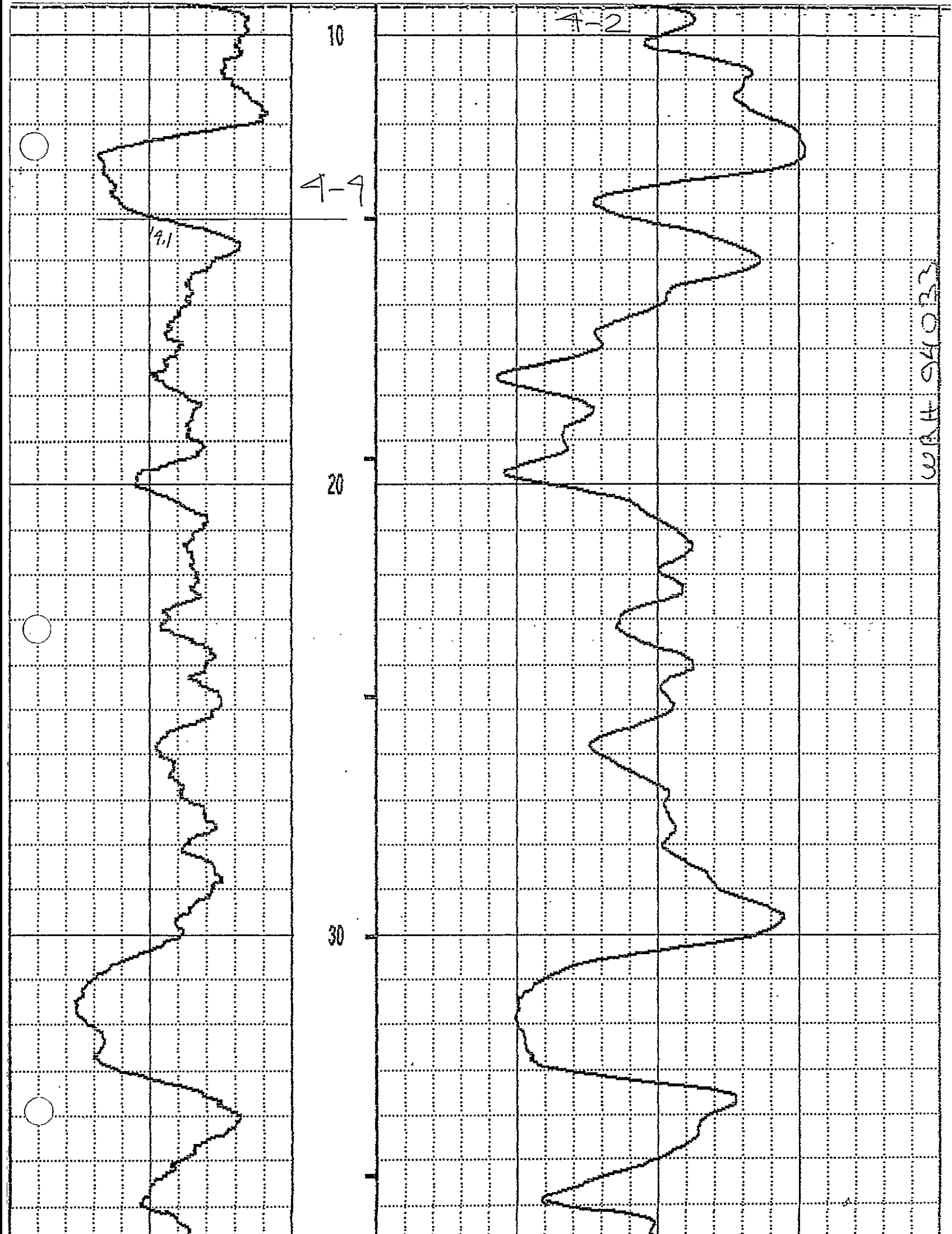
OMPANY	: GLOBALTEX						
ELL	: WRH-94033						
OCATION/FIELD	: WILLOW CREEK						
OUNTY	: CHETWYND						
TATE	: B.C.						
ECTION	:	TOWNSHIP	:		RANGE	:	
ATE	: 04/09/94	PERMANENT DATUM	:	GL	ELEVATIONS		
EPTH DRILLER	: 60	ELEV. PERM. DATUM	:		KB	:	
OG BOTTOM	: 60.14	LOG MEASURED FROM	:	GL	DF	:	
OG TOP	: 0.00	DRL MEASURED FROM	:	GL	GL	:	
ASING DRILLER	: 22.55	LOGGING UNIT	:	8903			
ASING TYPE	: STEEL	FIELD OFFICE	:	CALGARY			
ASING THICKNESS	: 0.12	RECORDED BY	:	T. LEWYCKYJ			
IT SIZE	: 13.5	BOREHOLE FLUID	:	WATER	FILE	:	ORIGINAL
AGNETIC DECL.	: 24.5	RM	:		TYPE	:	9055A
ATRIX DENSITY	: 2.65	RM TEMPERATURE	:		LOG	:	1
LUID DENSITY	: 1.00	MATRIX DELTA T	:	173	PLOT	:	G.TEX 0
EUTRON MATRIX	: SANDSTONE	FLUID DELTA T	:	690	THRESH	:	30000
EMARKS	:						

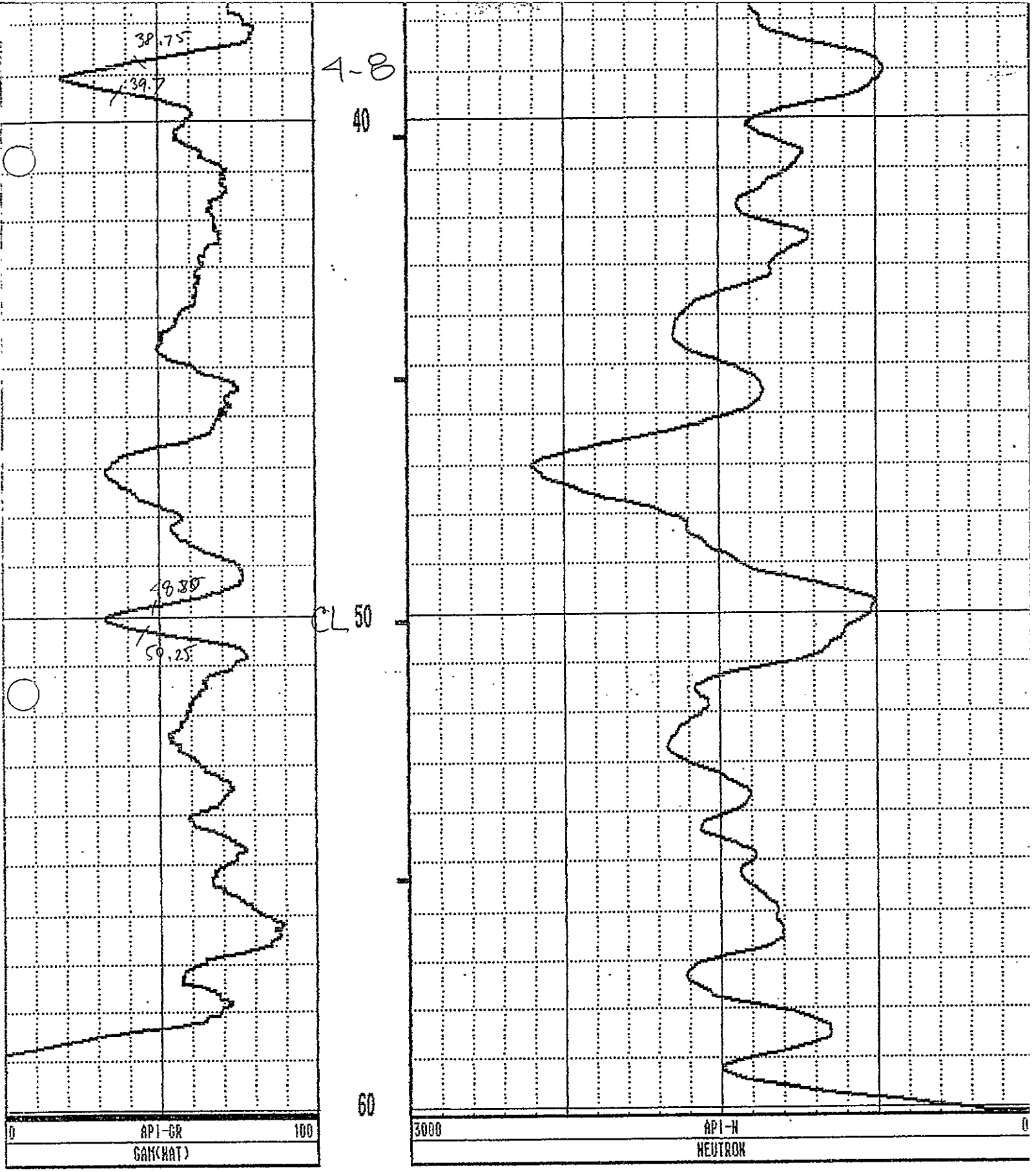
THROUGH RODS

OTHER SERVICES:
9030
9055

NO GR




4-2
10
4-4
4,1
20
30


38.75
39.7
4-8
40
49.80
CL 50
50.25
60
0
API-GR
100
GAM(RAT)
3000
API-N
0
NEUTRON

Appendix 3.26

WRH 94034

Century GEOPHYSICAL CORP.

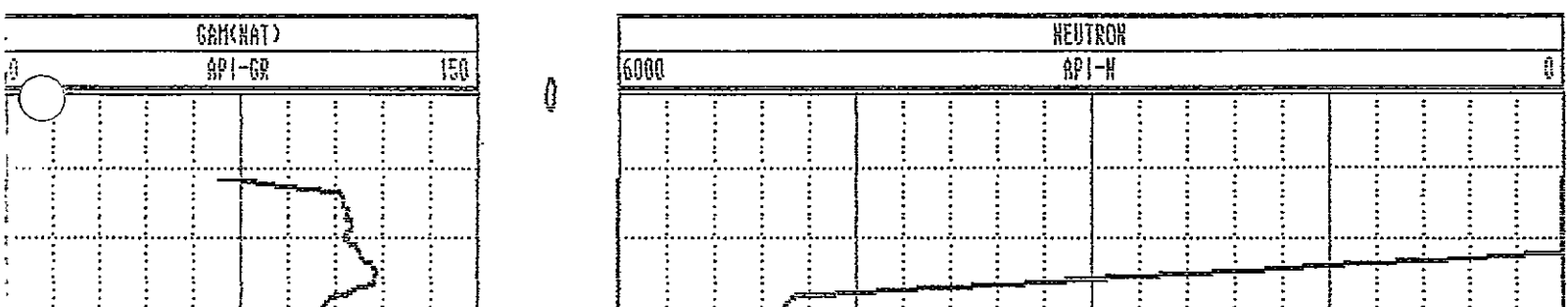
GAMMA-NEUTRON

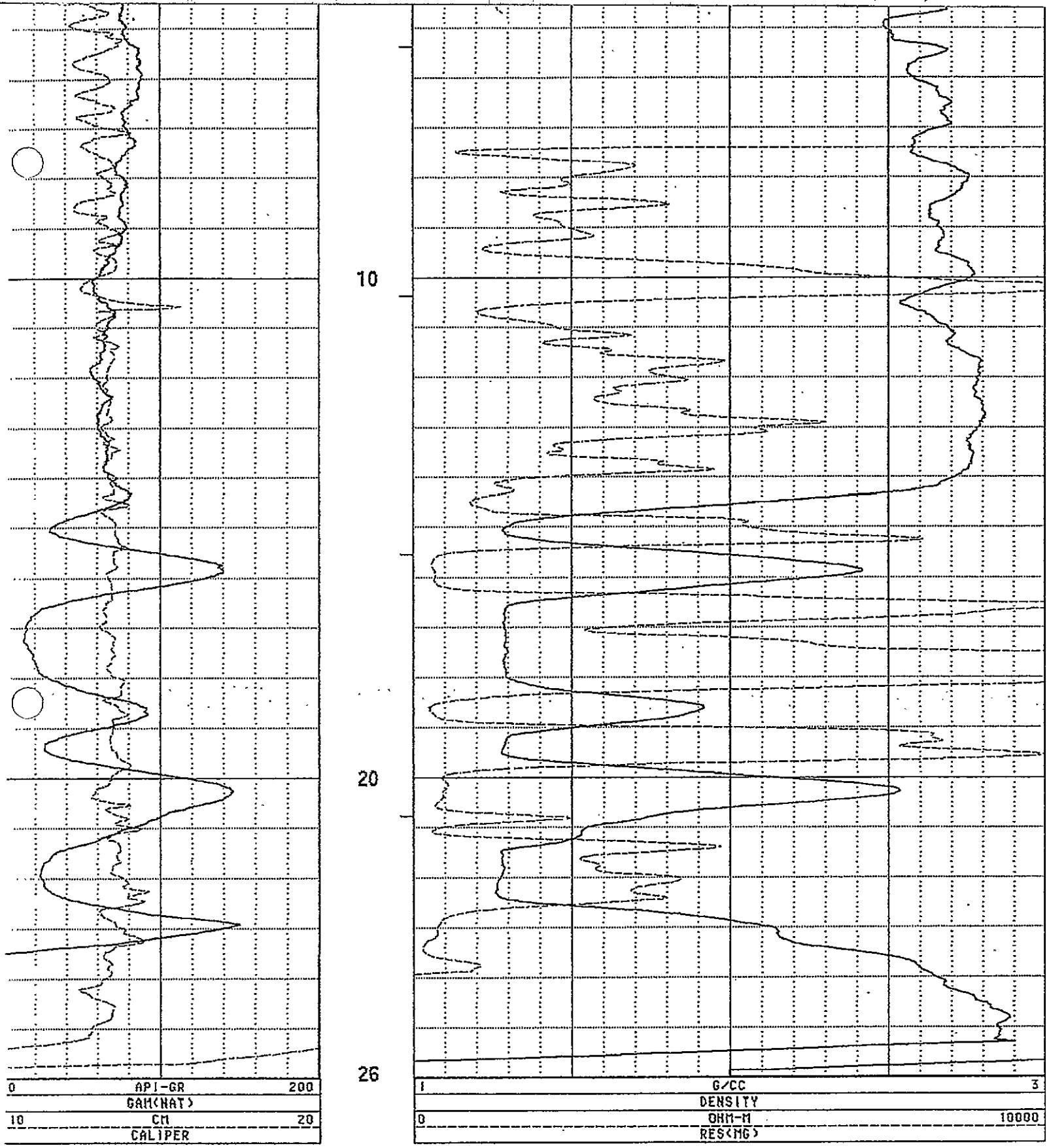
COMPANY	: GLOBALTEX				
WELL	: WRH-94034				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/13/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 30	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 26.07	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 1.15	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LENYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS





WRH-94034 04/13/94 440

Sample Log

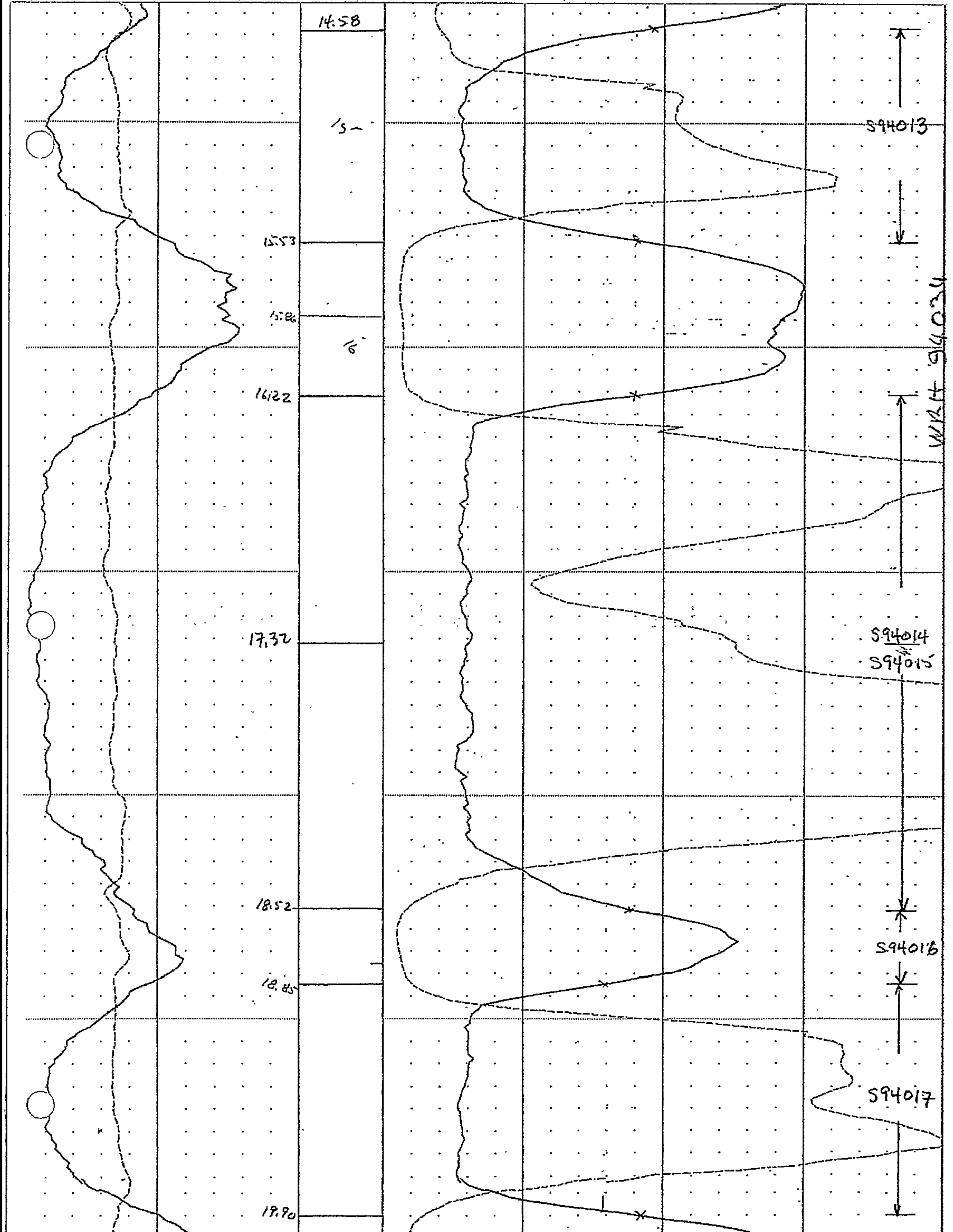
Century GEOPHYSICAL CORP.

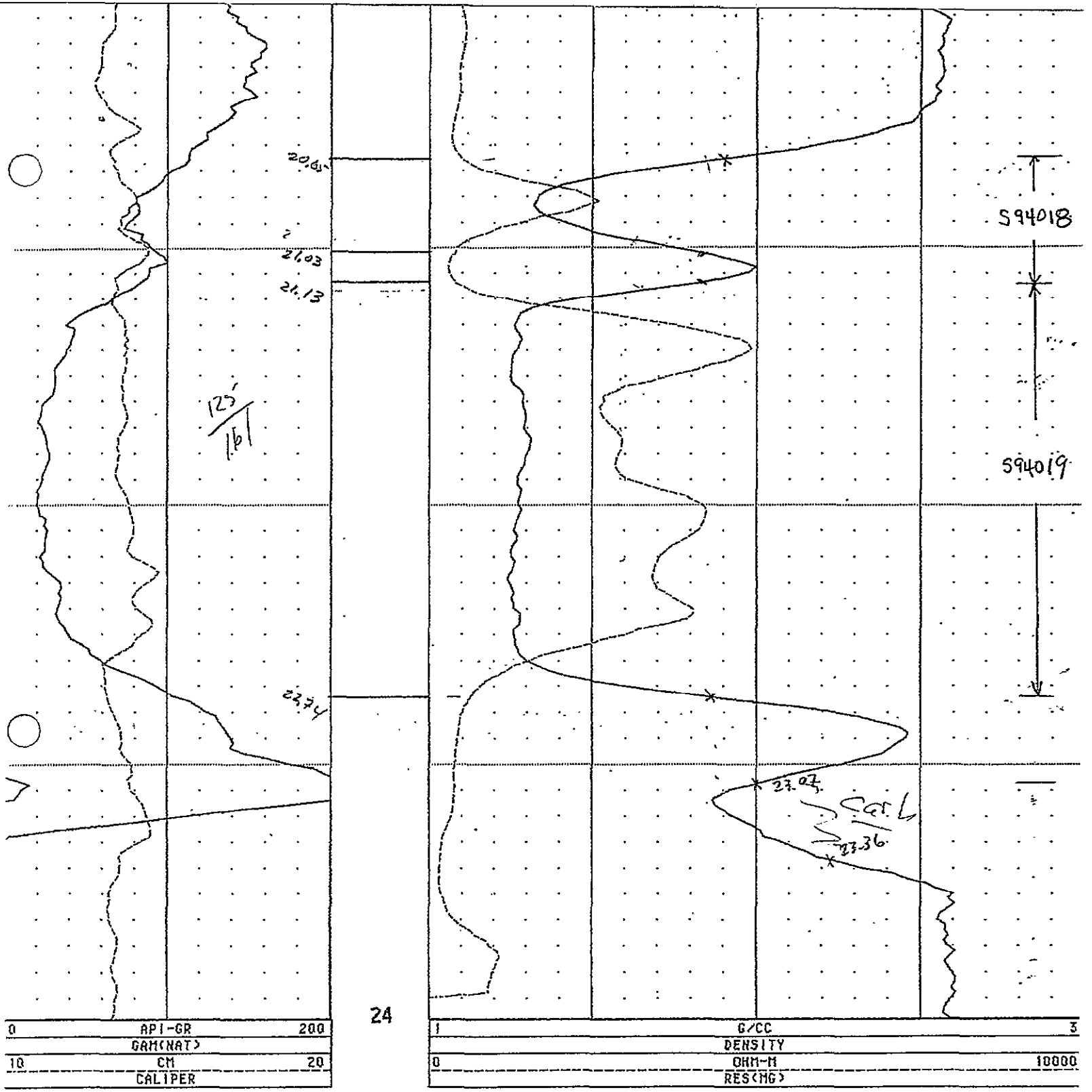
EXPANDED-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94034			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/13/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 30	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 26.01	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.28	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX .2
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

CALIPER		RES(HG)	
1 CM 20		0 OHM-M 10000	
GAM(NAT)		DENSITY	
0 API-GR 200		1 G/CC 3	


14.58
15.53
15.86
16.22
17.32
18.52
18.85
19.90
S94013
S94014
S94015
S94016
S94017
WRH 94034



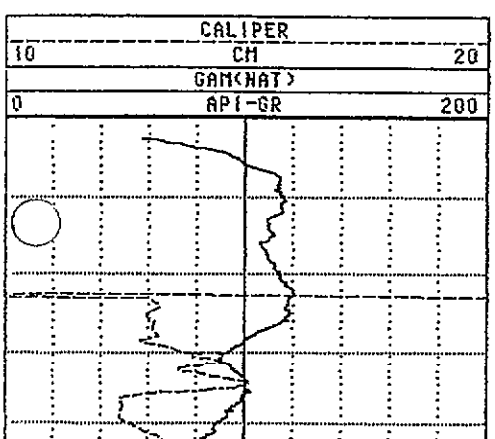
WRH-94034 04/13/94 440

Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94034			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/13/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 30	ELEV. PERM. DATUM:		KB	:
LOG BOTTOM	: 26.01	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 0.28	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEHYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 698	THRESH	: 30000
REMARKS	:				

OPEN HOLE



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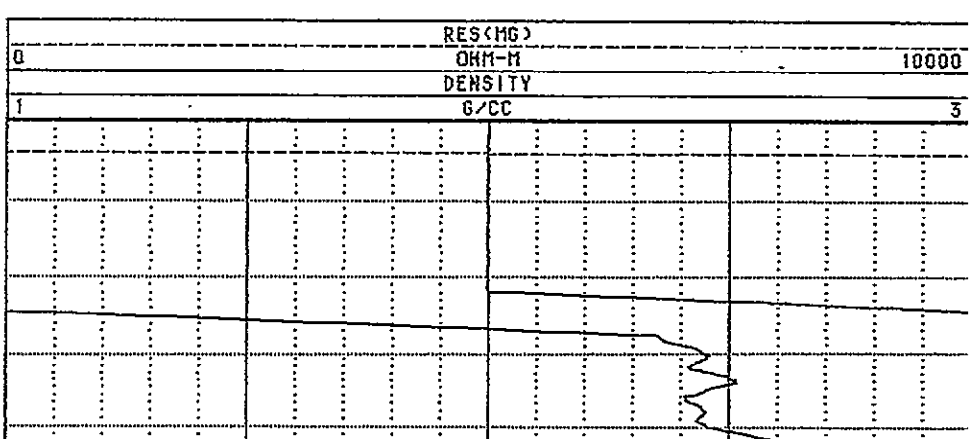
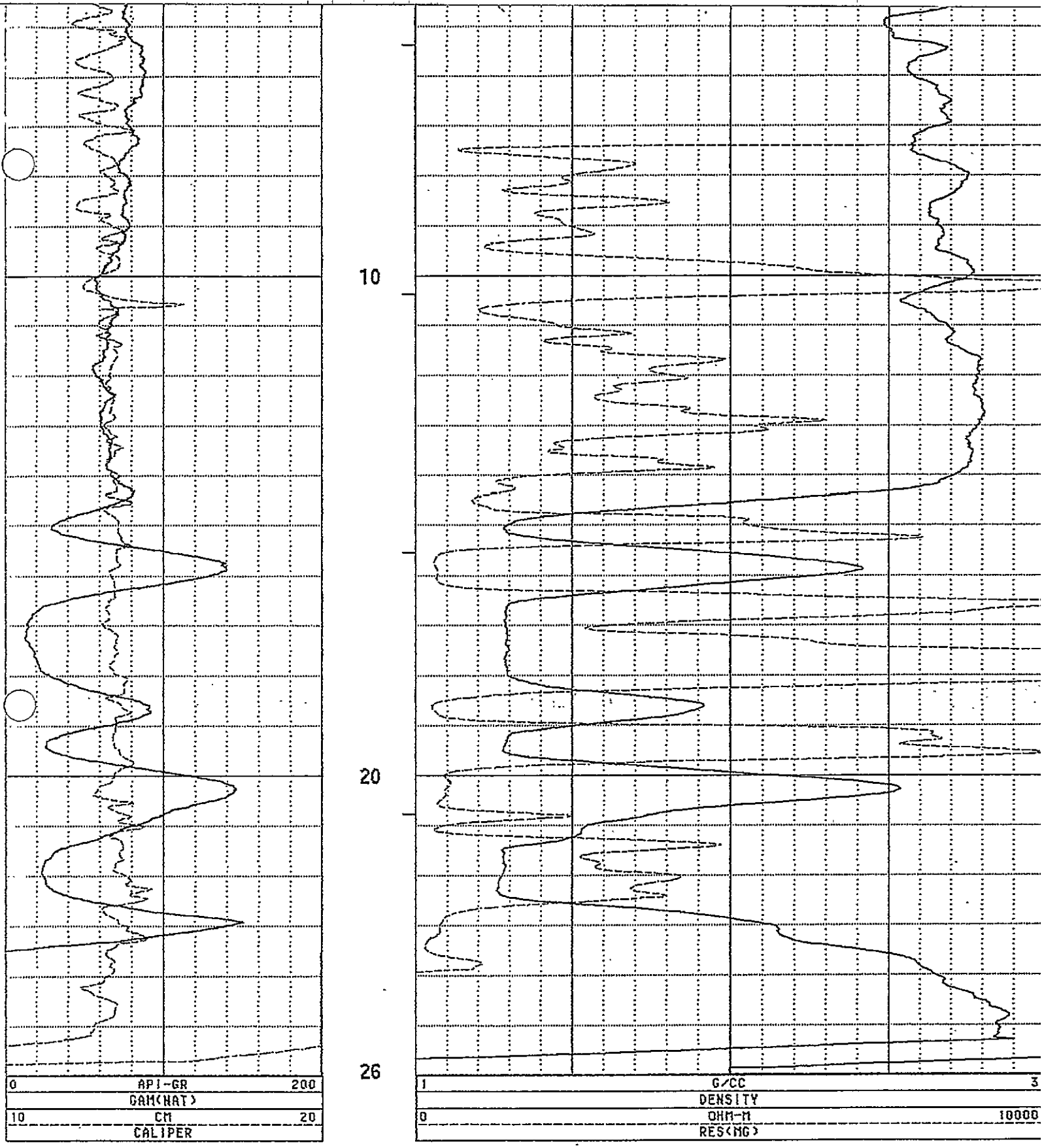
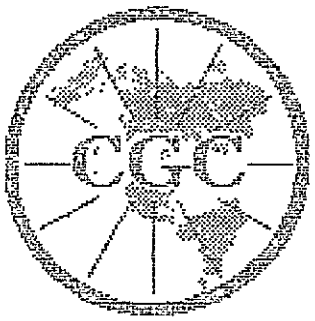




WRH-94034 04/13/94 440

Appendix 3.27

WRH 94037

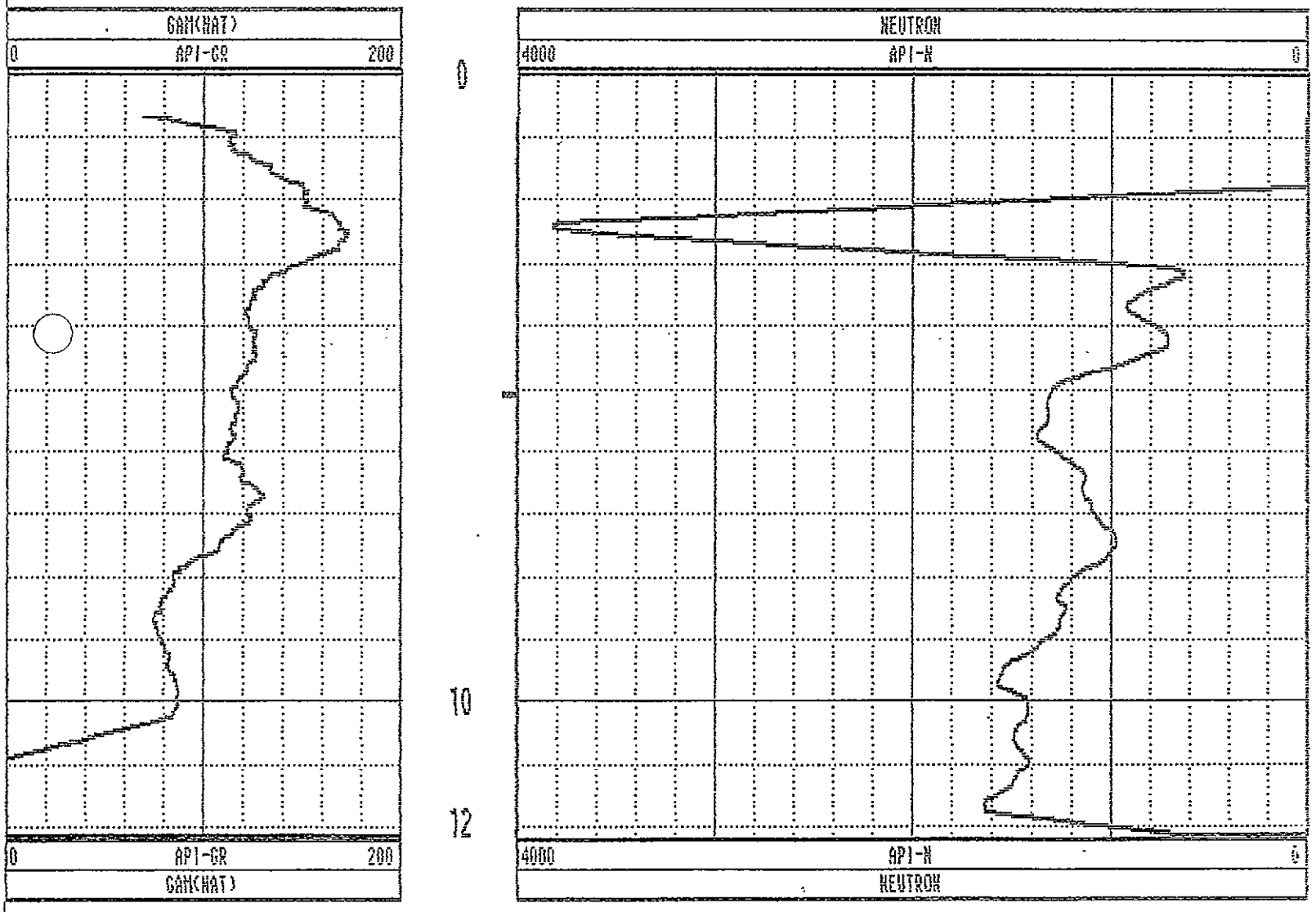


Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX			OTHER SERVICES:	
WELL	: WRH-94055 37			9030	
LOCATION/FIELD	: WILLOW CREEK			9055	
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/15/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 18	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 12.18	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.70	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LENYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE


GAM(HAT)
0
API-GR
200
0
10
12
NEUTRON
4000
API-N
0
4000
API-N
0
API-GR
200
GAM(HAT)
NEUTRON

* Compare to WRH96208C
coal 4-3 is shallower in this hole
-thus it must be 94037 and
not 94037A which is very close
to 96208C

96208C was drilled to test oxides
but was abandoned,
it did not penetrate
seam 4, only
seam 4-3

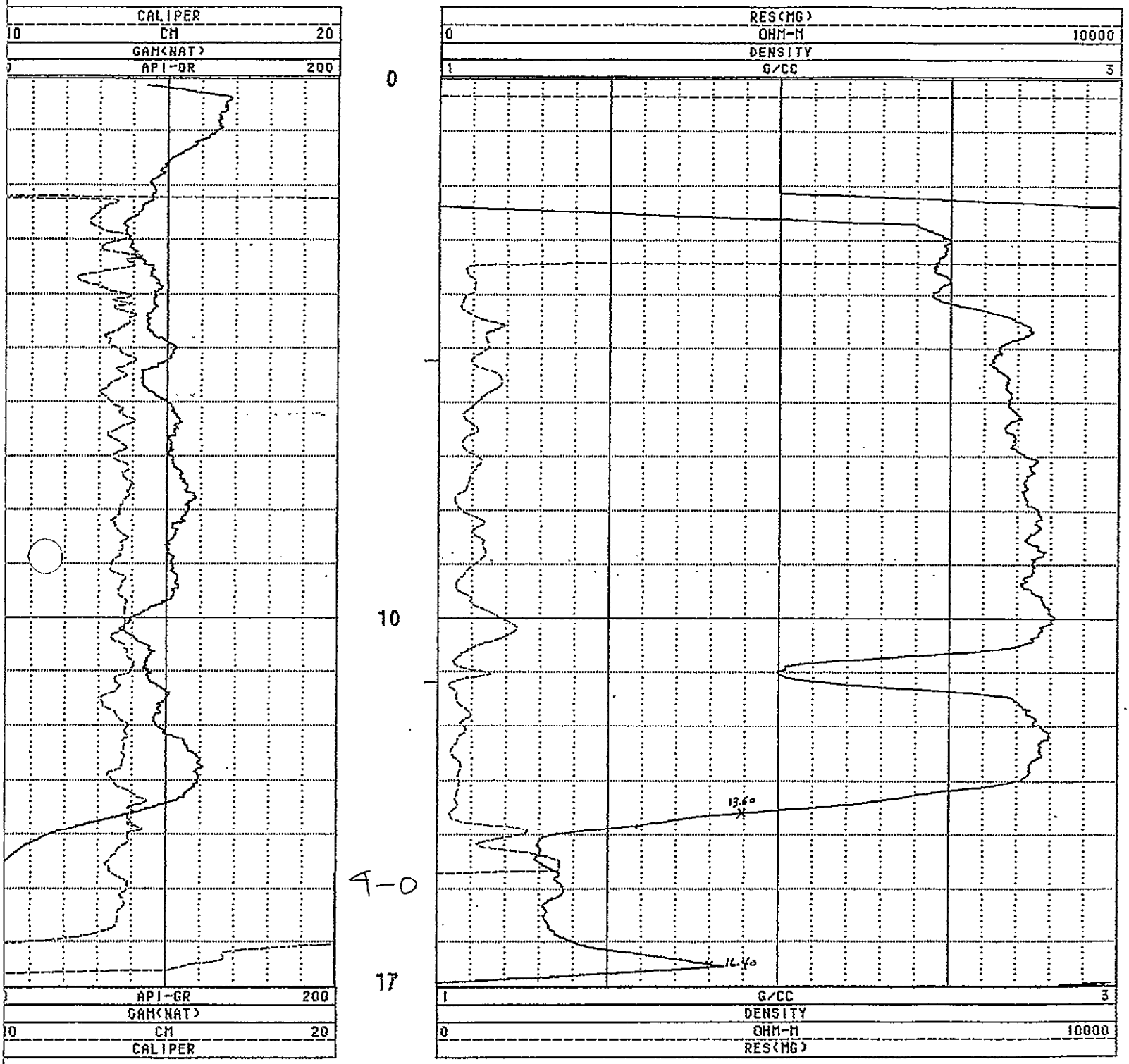
Century GEOPHYSICAL CORP.

GAMMA-RES-DENSITY

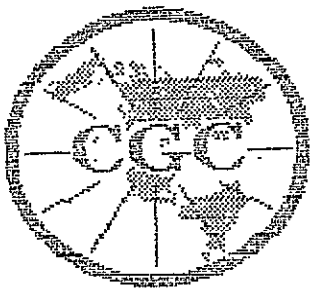
COMPANY	: GLOBALTEX				
WELL	: WRH-94037A				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/15/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 18	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 16.82	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.18	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8983		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEMYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 1
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: C.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055



WRH-94037A 04/15/94 440



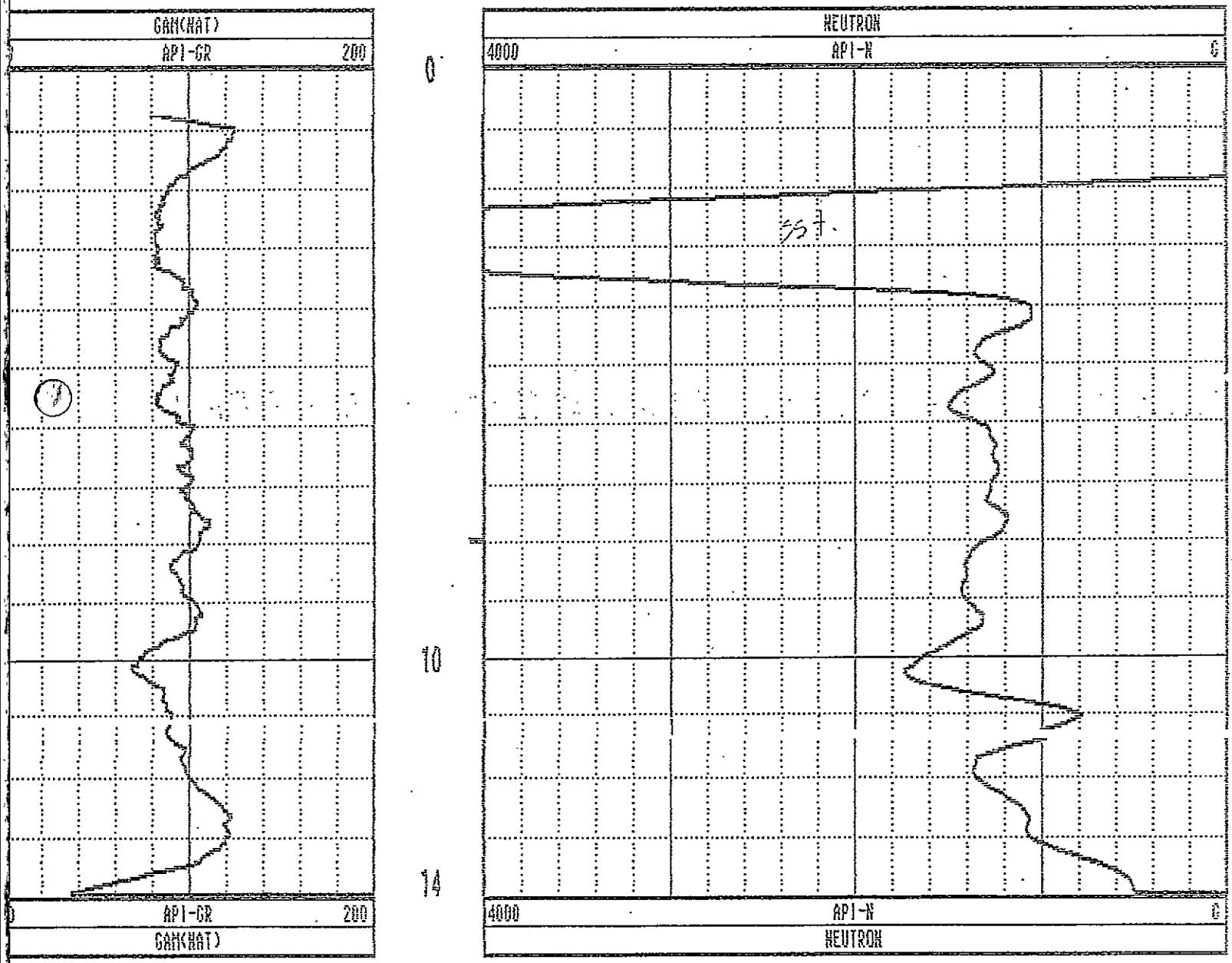
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: MRH-9403S 37 A				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/15/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 18	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 16.86	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.80	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEHYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055



WRH-9403Φ 04/15/94 255

Appendix 3.28

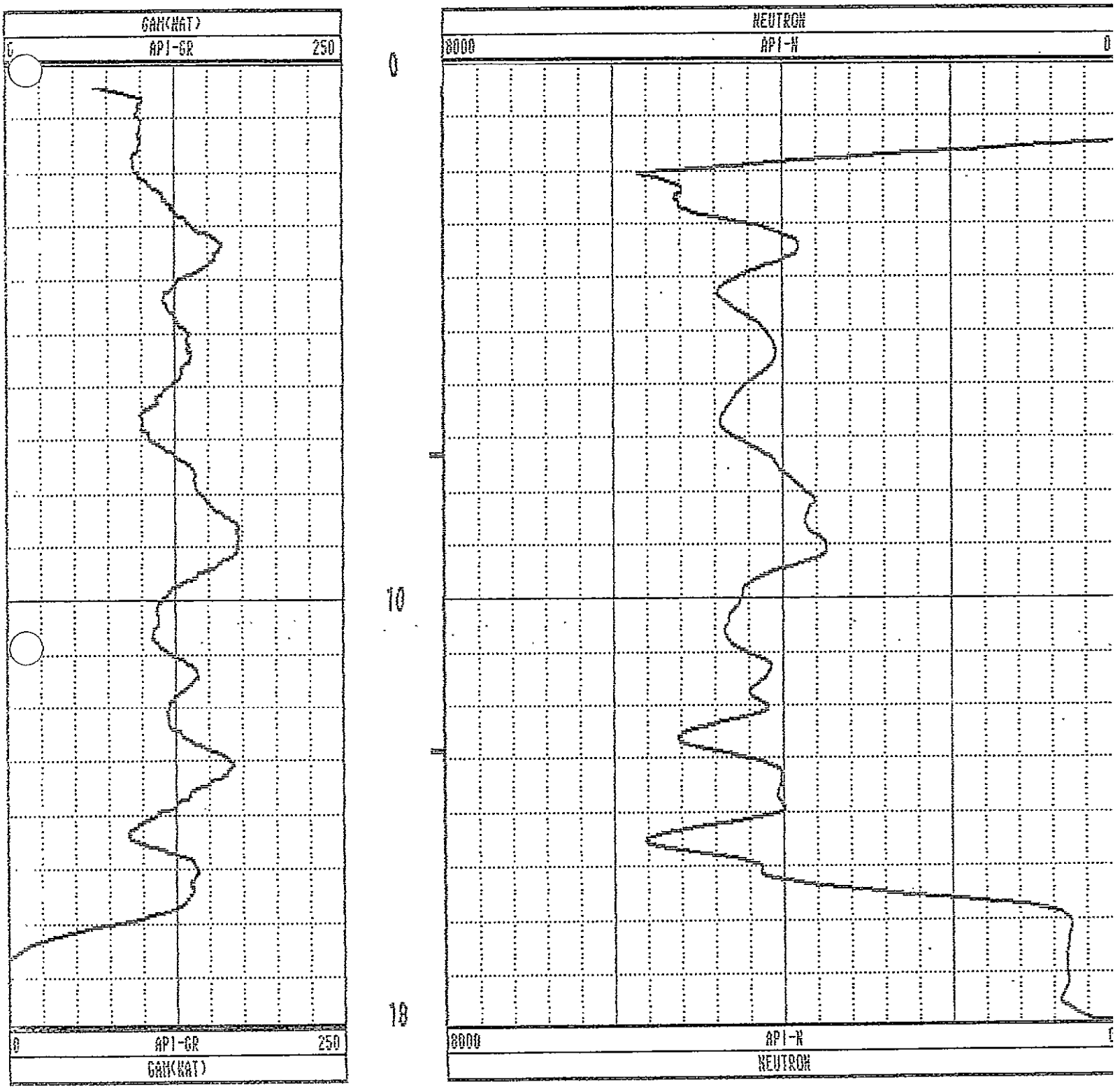
WRH 94039

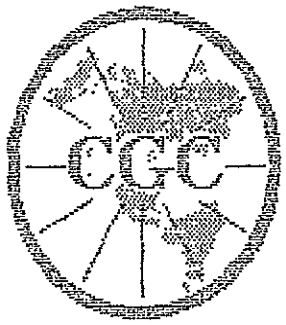
Century GEOPHYSICAL CORP.

GAMMA-NEUTRON

COMPANY	: GLOBALTEX				
WELL	: WRH-9403/9			OTHER SERVICES:	
LOCATION/FIELD	: WILLOW CREEK			9030	
COUNTY	: CHETWYND			9055	
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/16/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 21	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 17.97	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 0.44	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9055A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 2
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 0
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE


GAM(KAT)
0
API-GR
250
0
10
19
8000
API-N
0
NEUTRON



Century GEOPHYSICAL CORP.

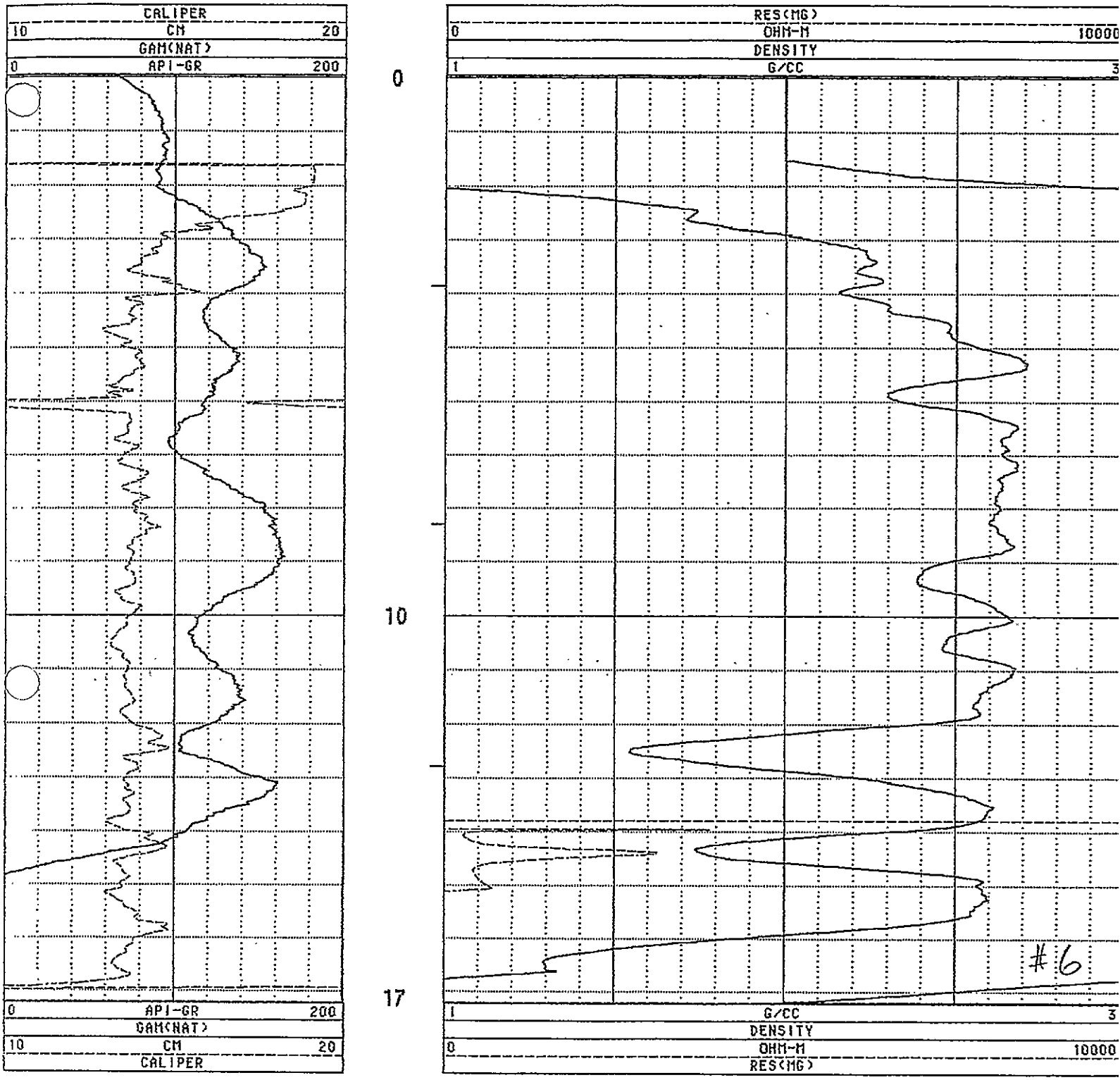
GAMMA-RES-DENSITY

COMPANY	: GLOBALTEX				
WELL	: WRH-9403Y9				
LOCATION/FIELD	: WILLOW CREEK				
COUNTY	: CHETWYND				
STATE	: B.C.				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 04/16/94	PERMANENT DATUM	: GL	ELEVATIONS	
DEPTH DRILLER	: 21	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 17.21	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: -0.42	DRL MEASURED FROM	: GL	GL	:
CASING DRILLER	: 22.55	LOGGING UNIT	: 8903		
CASING TYPE	: STEEL	FIELD OFFICE	: CALGARY		
CASING THICKNESS	: 0.12	RECORDED BY	: T. LEWYCKYJ		
BIT SIZE	: 13.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	: 24.5	RM	:	TYPE	: 9030AA
MATRIX DENSITY	: 2.65	RM TEMPERATURE	:	LOG	: 3
FLUID DENSITY	: 1.00	MATRIX DELTA T	: 173	PLOT	: G.TEX 1
NEUTRON MATRIX	: SANDSTONE	FLUID DELTA T	: 690	THRESH	: 30000
REMARKS	:				

OPEN HOLE

OTHER SERVICES:
9030
9055

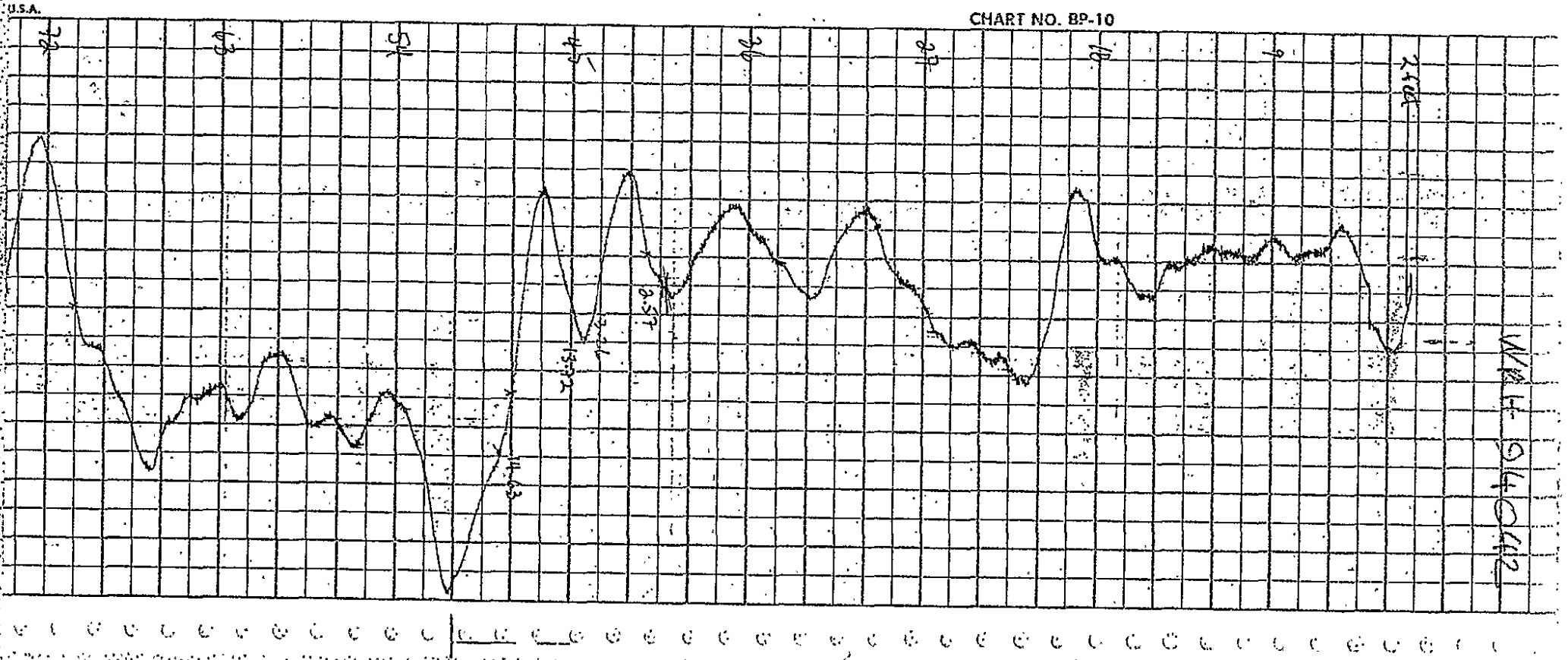
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

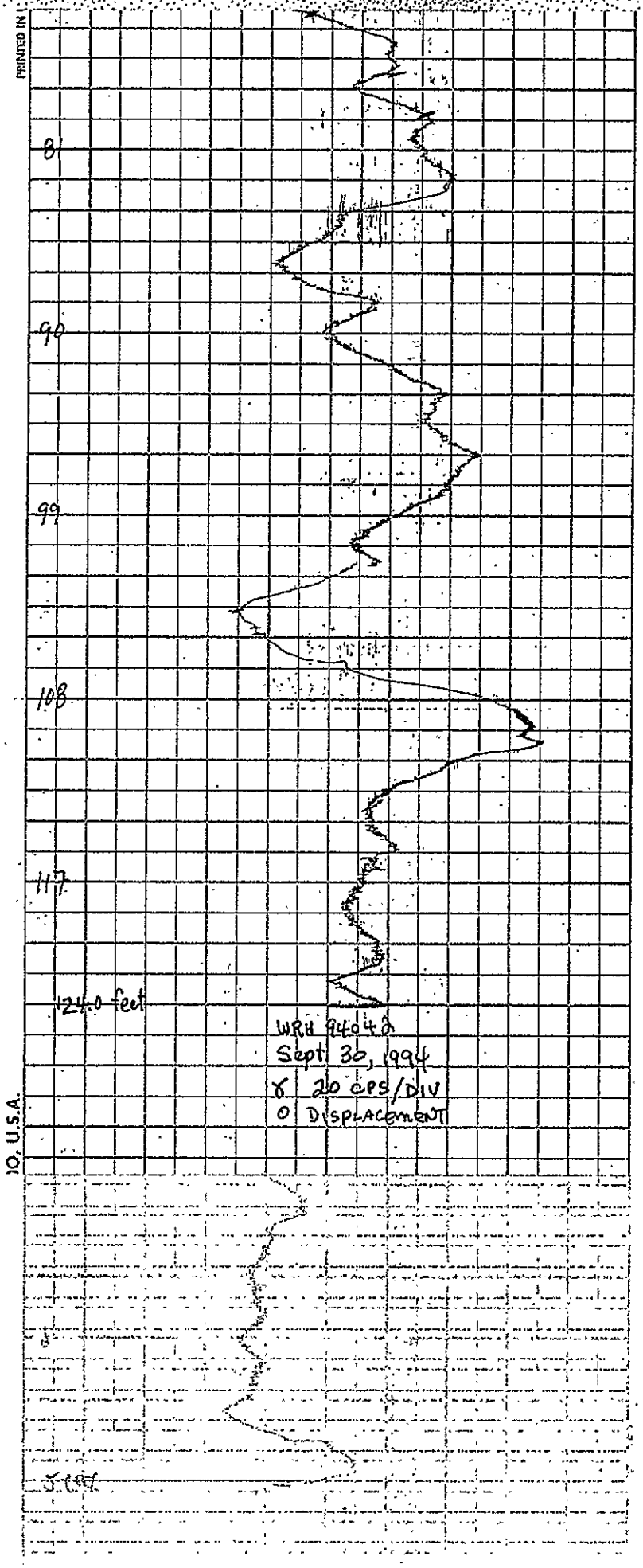


WRH-9403 9 04/16/94 440

Appendix 3.29

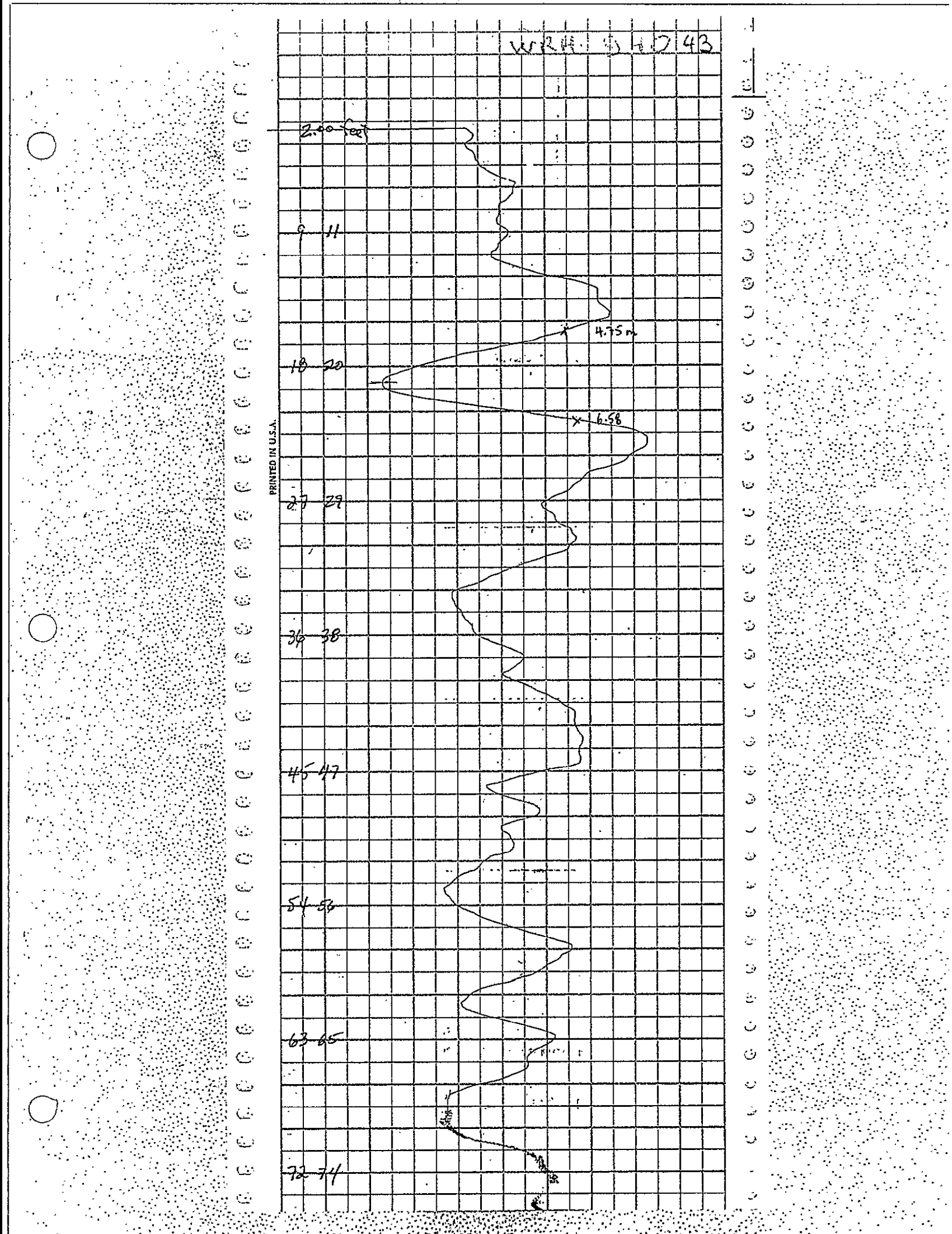
WRH 94042

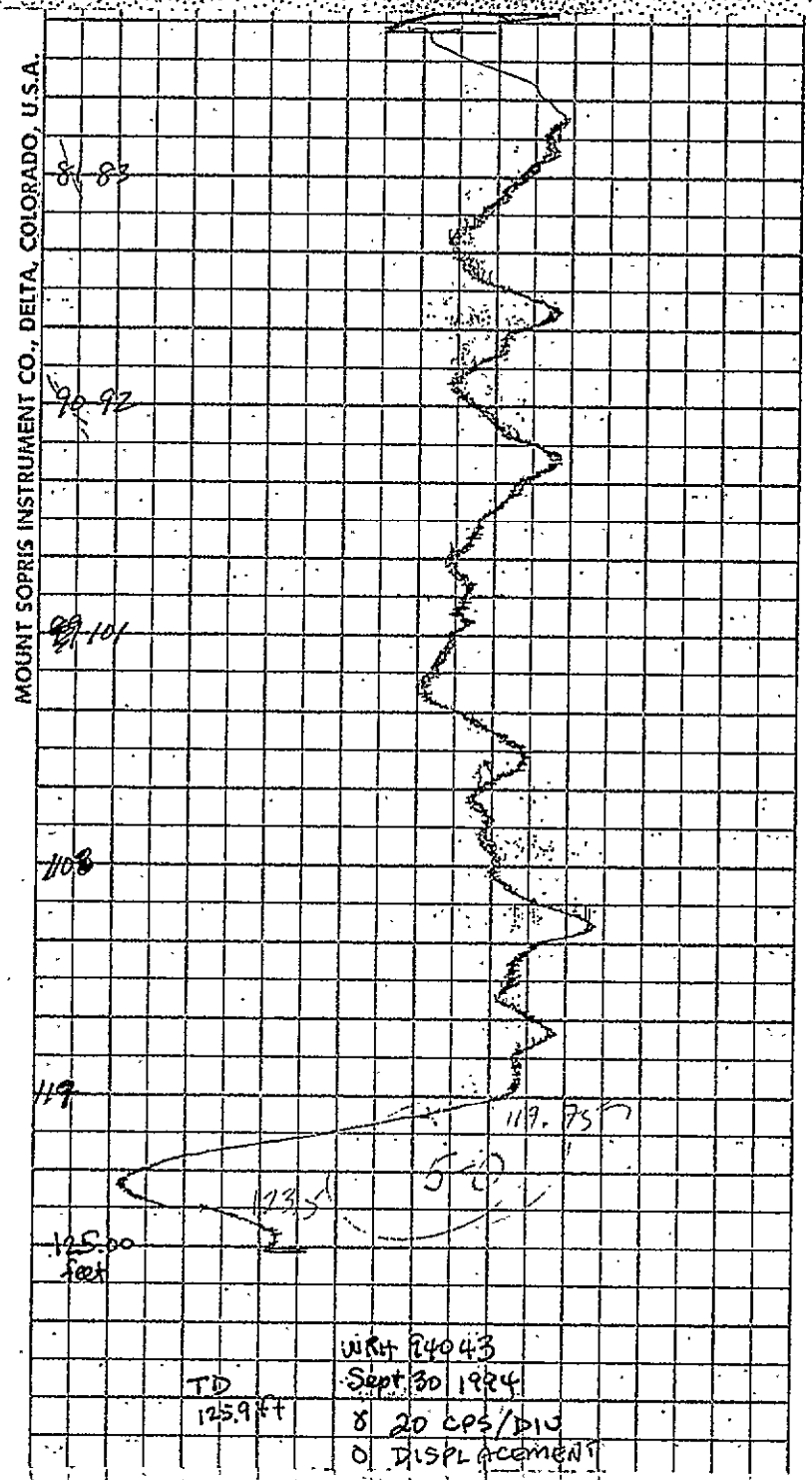

U.S.A.
CHART NO. BP-10


PRINTED IN
8
90
99
108
117
124.0 feet
WRH 9404δ
Sept 30, 1994
δ 20 cps/DIV
0 DISPLACEMENT
10 U.S.A.

Appendix 3.30

WRH 94043


WRH SHD43
2.00 feet
9 11
4.75m
18 20
6.58
PRINTED IN U.S.A.
27 29
36 38
45 47
54 56
63 65
72 74

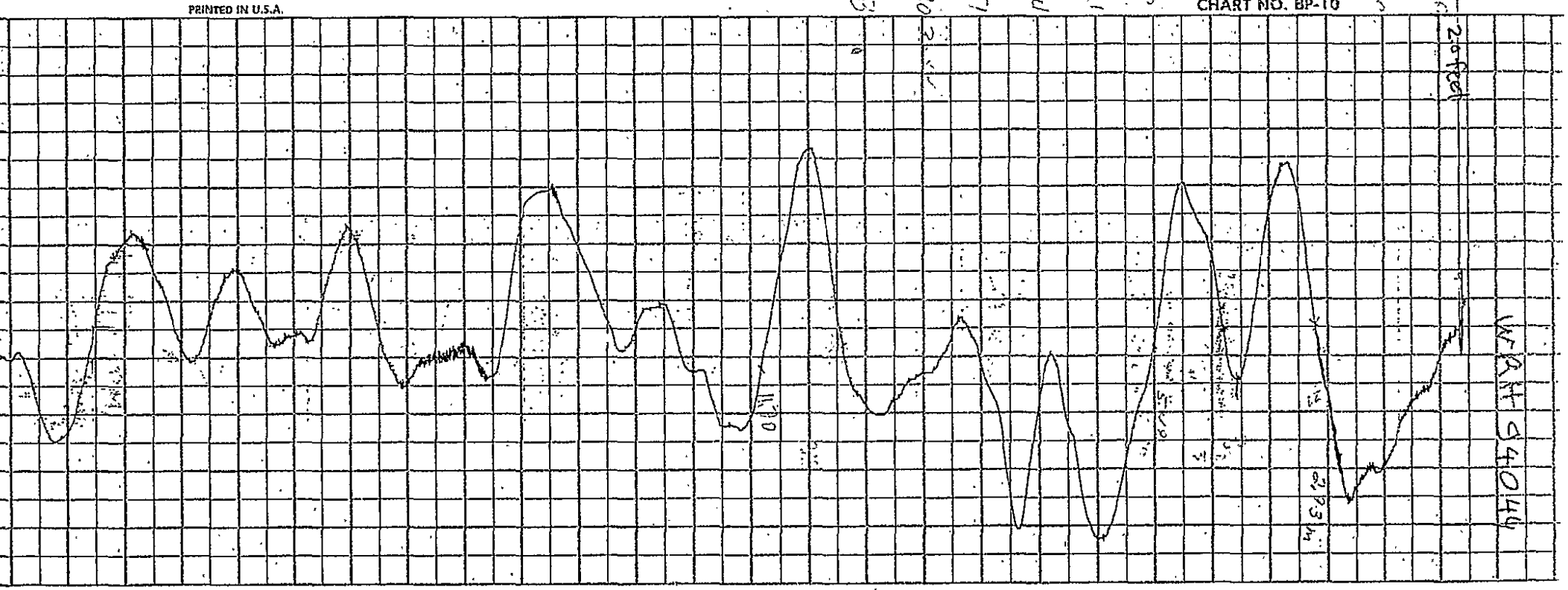

MOUNT SOPRIS INSTRUMENT CO., DELTA, COLORADO, U.S.A.
84-83
90-92
99-101
108
119
117.75
123.5
125.00 feet
TD 125.9 ft
WRH 24043
Sept 30 1924
8 20 CPS/DIV
0 DISPLACEMENT

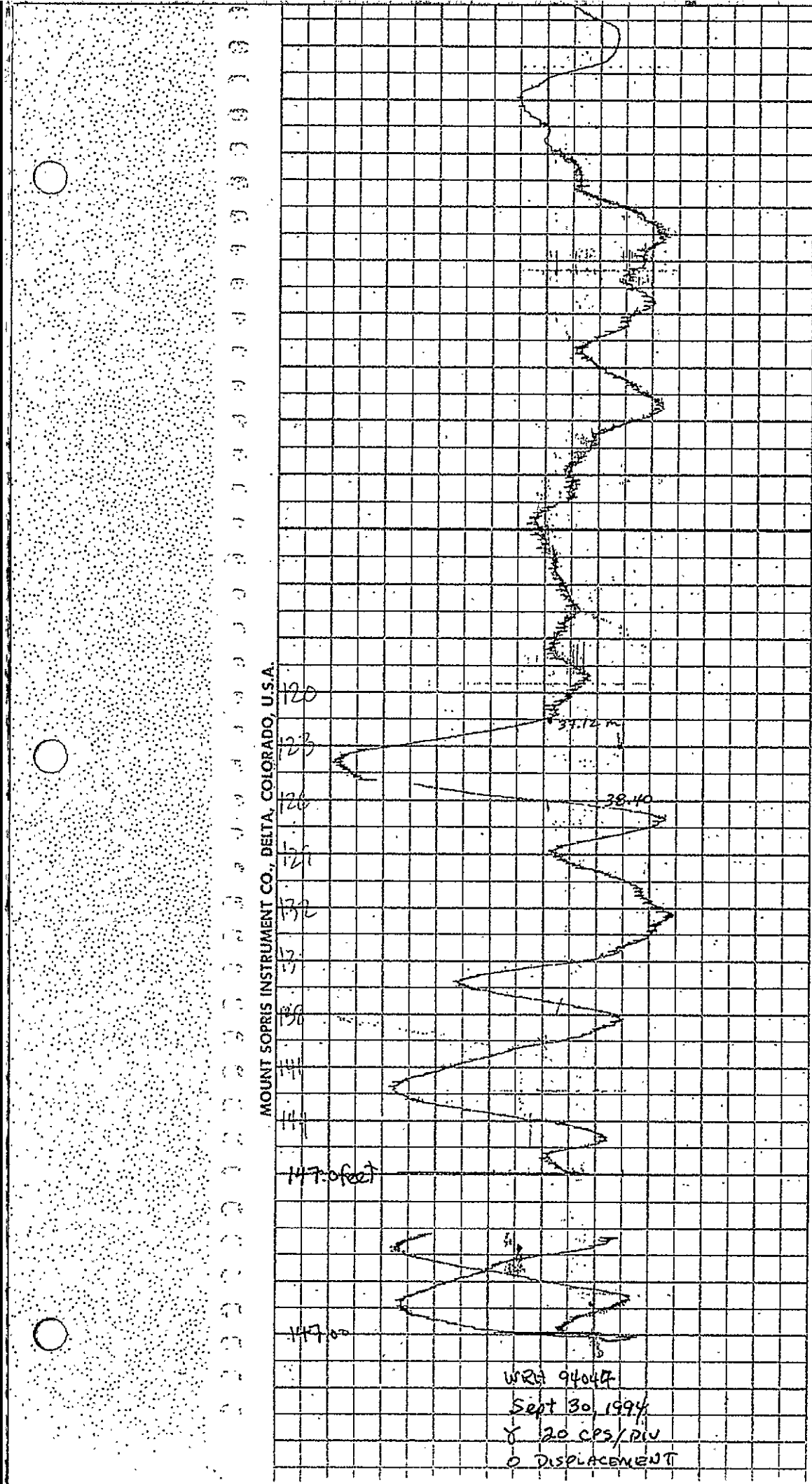
Appendix 3.31

WRH 94044

PRINTED IN U.S.A.

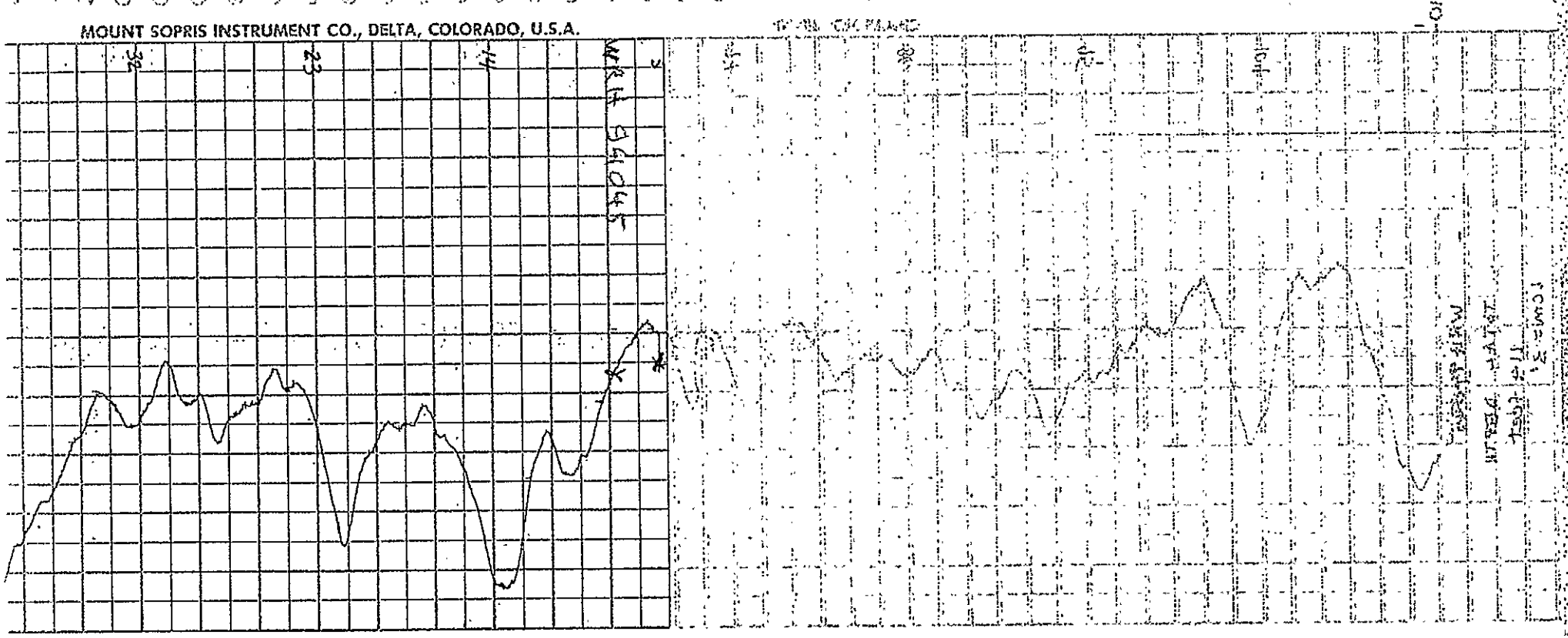
CHART NO. BP-10

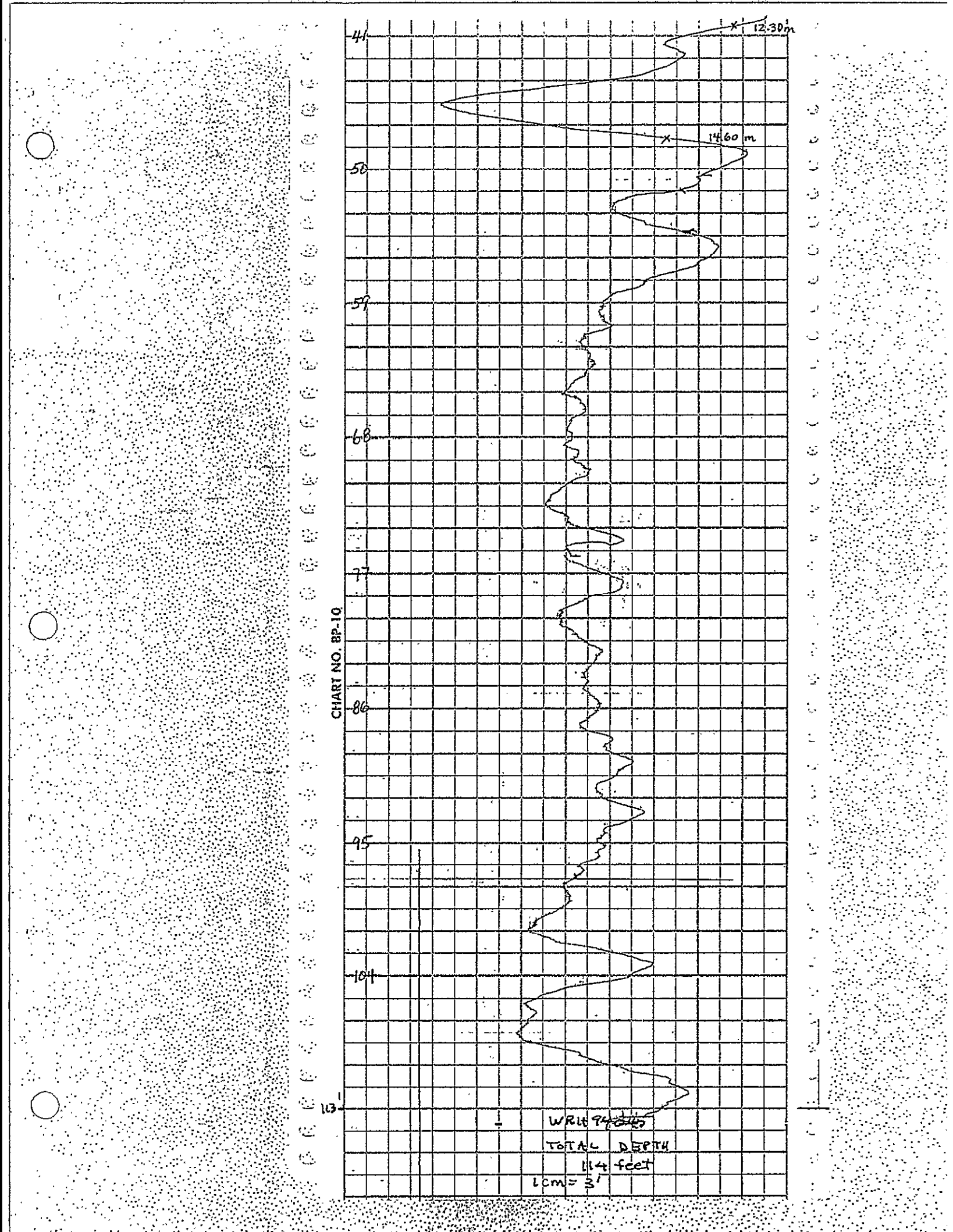



MOUNT SOPRIS INSTRUMENT CO., DELTA, COLORADO, U.S.A.
120
37.12 m
38.40
147.0 feet
147.00
WR# 94047
Sept 30, 1994
γ 20 cps/div
0 DISPLACEMENT

Appendix 3.32

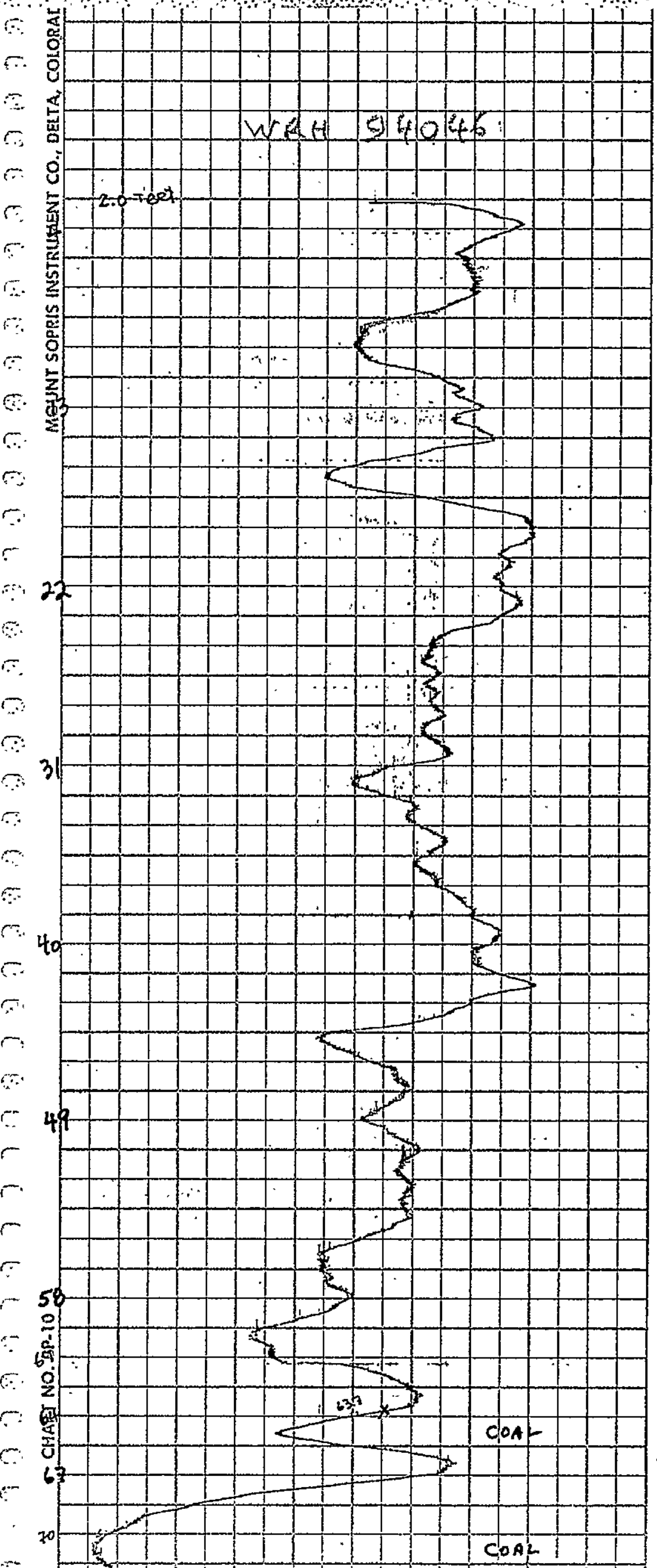
WRH 94045

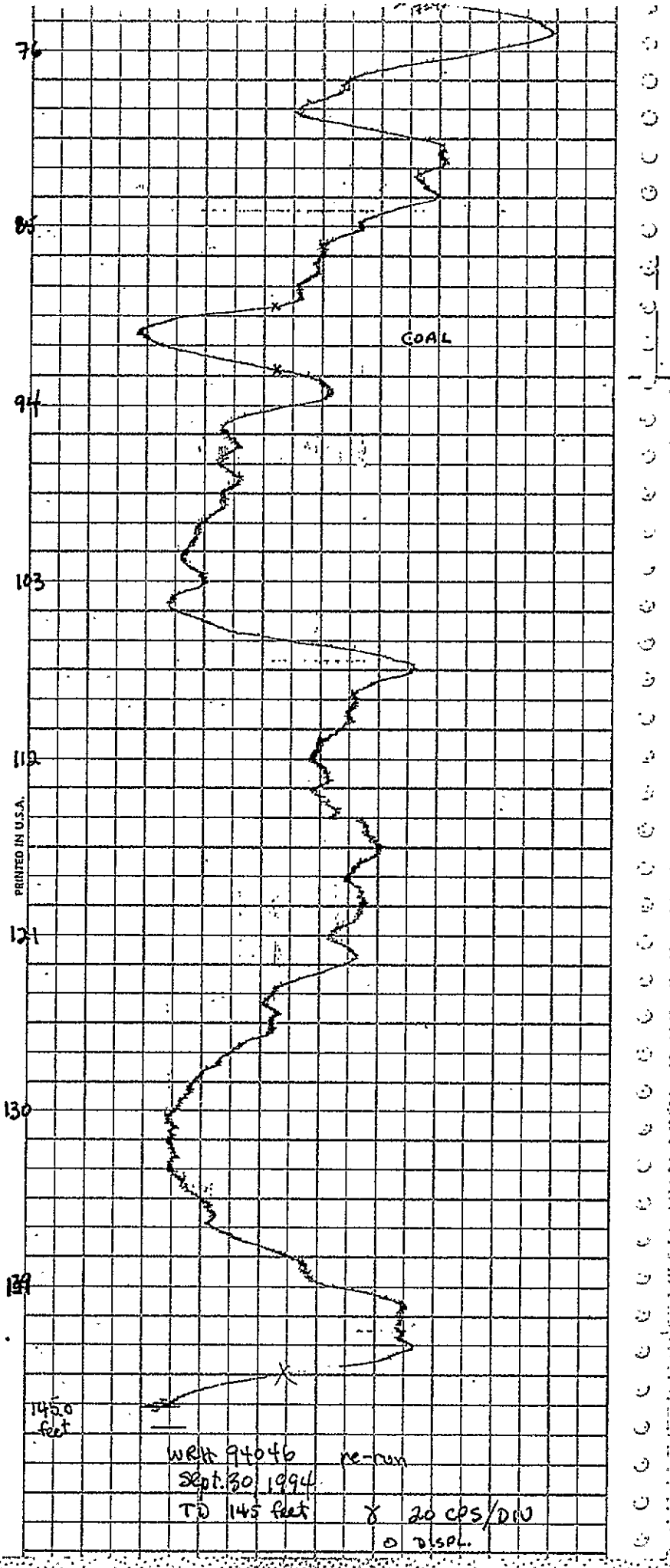

MOUNT SOPRIS INSTRUMENT CO., DELTA, COLORADO, U.S.A.


12.30m
14.60 m
41
50
59
68
77
86
95
104
113
CHART NO. BP-10
WRit
TOTAL DEPTH
114 feet
1cm = 3'

Appendix 3.33

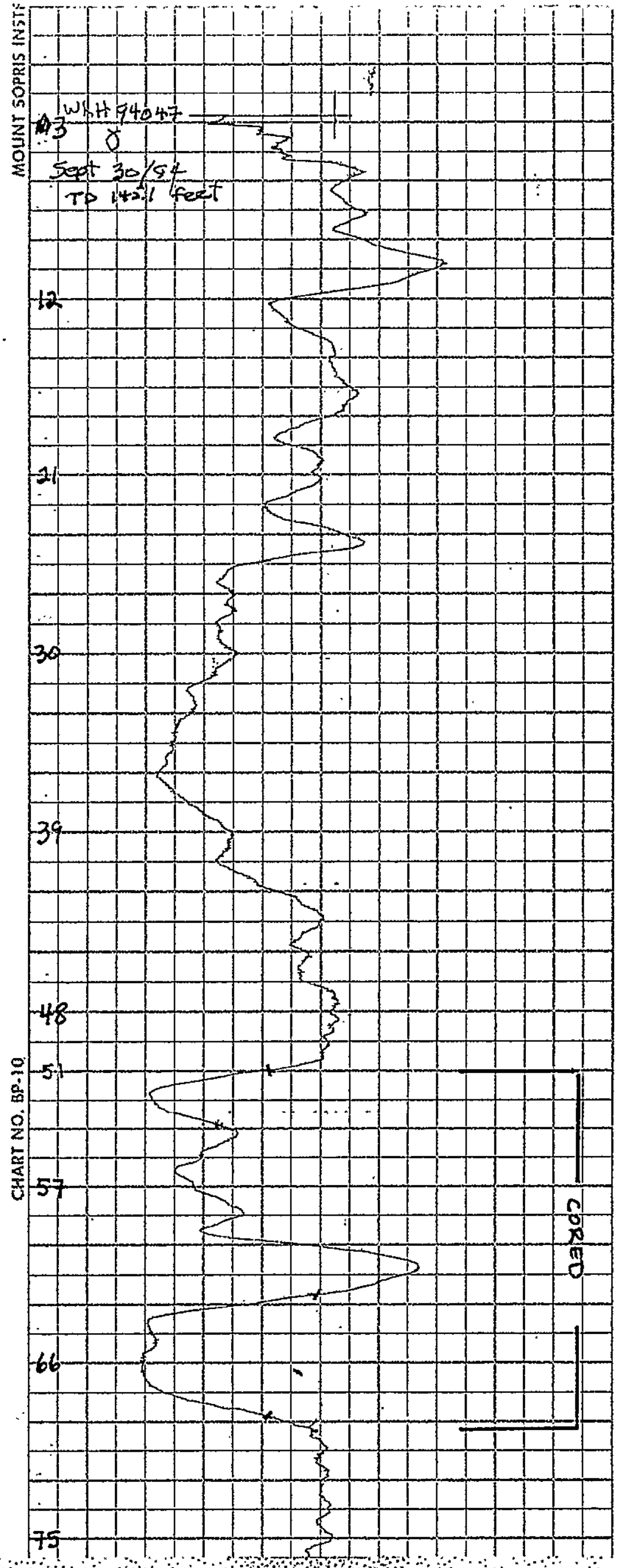
WRH 94045

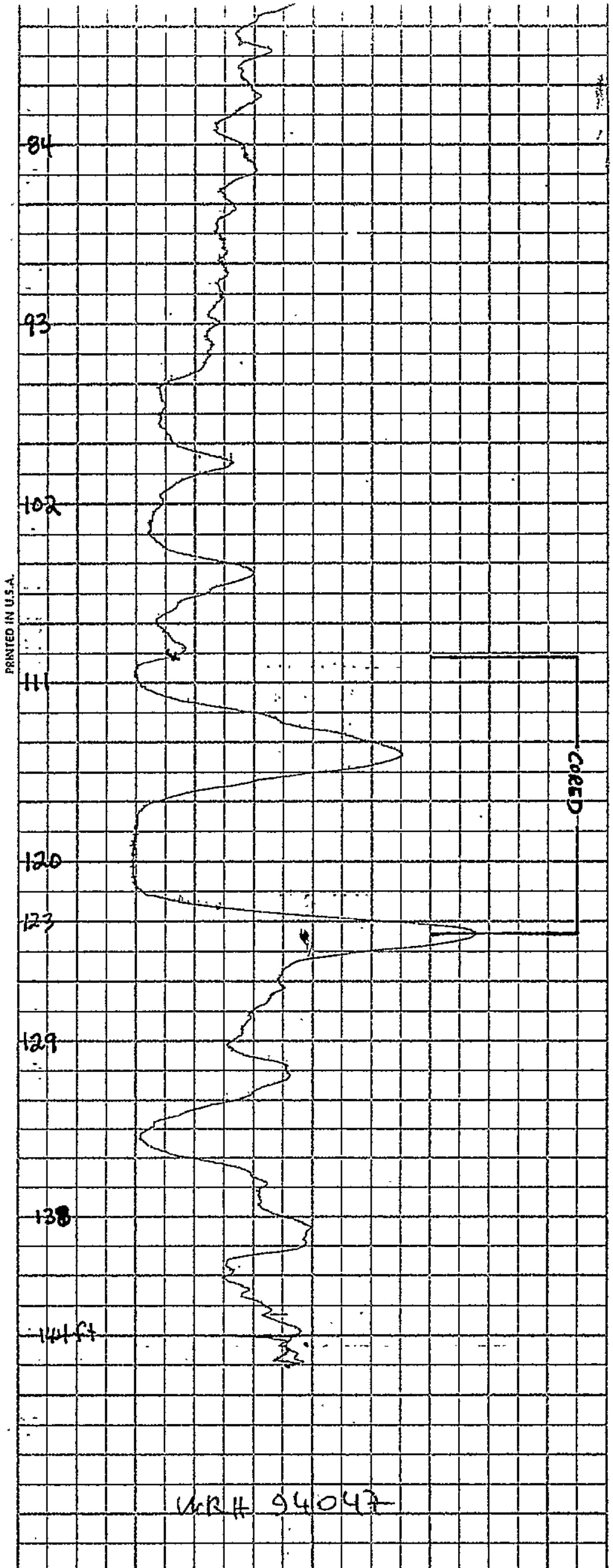

MOUNT SOPRIS INSTRUMENT CO., DELTA, COLORADO
WRH 94046
2.0 feet
22
31
40
49
58
63.7
63
COAL
COAL
70
CHART NO. SP-10



Appendix 3.34

WRH 94047


MOUNT SOPRIS INST
CHART NO. BP-10
WBH 94047
Sept 30/94
TD 142.1 feet
3
12
21
30
39
48
51
57
66
75
CORED



PRINTED IN U.S.A.
84
93
102
111
120
123
129
138
144 ft
CORED
WRH 94047

Appendix 3.35

WRH 94048

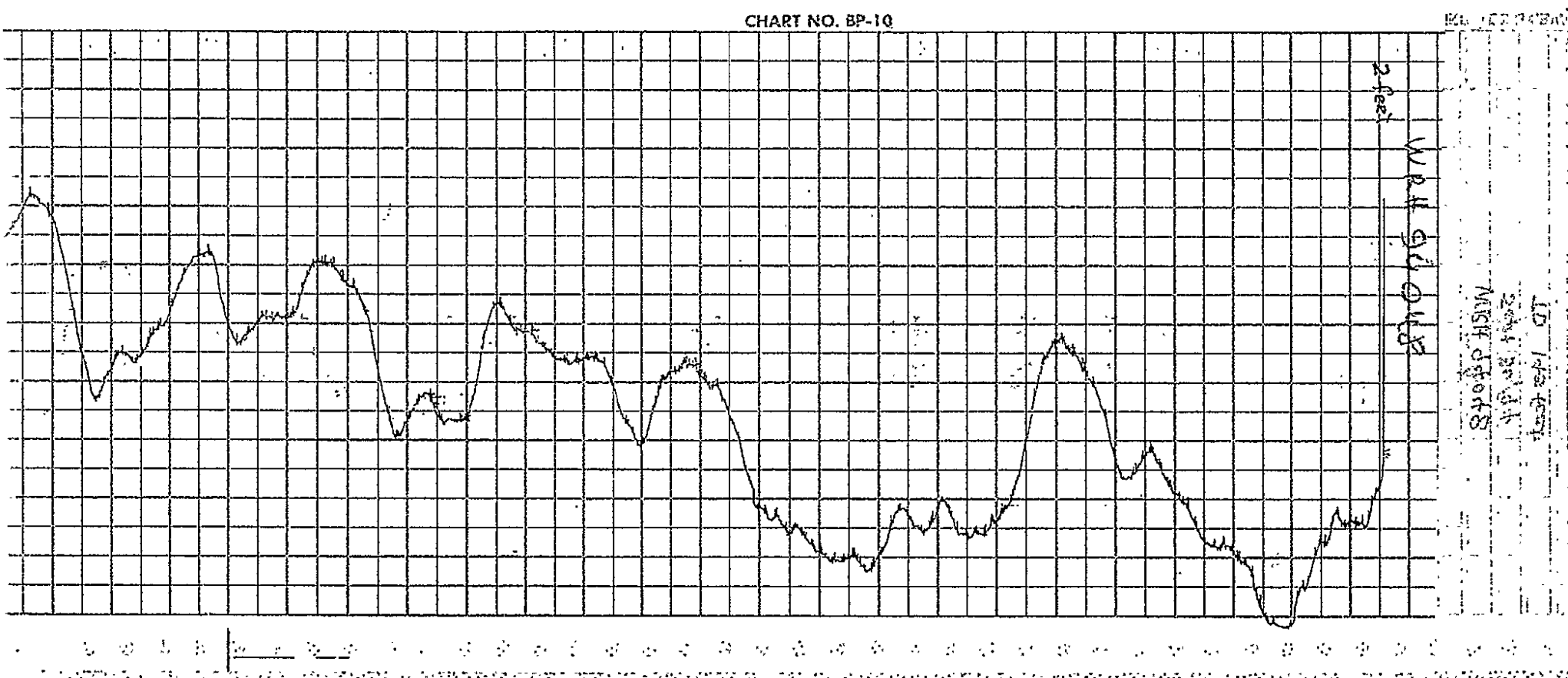


CHART NO. BP-10
2 feet

MENT CO., DELTA, COLORADO, U.S.A.

PRINTED IN U.S.A.