MAR 19970005: HORSESHOE

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Assessment Report

Exploration Program on the Horseshoe Project, Peace River Area, Alberta

NTS 84-C-2,3,6,7 Latitude 56° 25' Longitude 117° 00'

Metallic and Industrial Minerals Permits Nos. 9393030126 to 9393030132 & 9393030135

June 25 1997

on behalf of

Ridgeway Petroleum Corp. - Calgary Horseshoe Gold Mining Inc. - Vancouver

by

Michael Marchand Ph.D. P. Geol

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ABSTRACT

An low level helicopter-borne magnetic survey was carried out over the previously identified anomalous areas in order to precisely define anomalies indicative of kimberlitic pipes or bodies. The survey was flown at a line spacing of 50 m with an altitude of 20 m for the magnetic sensor. This survey can be considered the equivalent of a ground survey as it provides nearly the same definition as a ground survey. It had a magnetic reading every 3.1 m (10 feet).

Magnetic anomalies were categorized based on the visual character, size and shape of the identified targets; 5 targets are probably insignificant, 5 are low priority, 8 are medium priority and 4 are of high priority. All these targets require additional geophysical processing and modeling carried out on them as they contain significant anomalies and magnetic patterns. Though results from drilling in 1995 were disappointing in that no direct evidence of kimberlitic or lamproitic rocks were identified, no reason could be identified for the magnetic anomalies. It has been noted that there is often difficulty in visually identifying the sedimentary crater facies in high level kimberlite intrusions, and that a single drill hole is usually insufficient to evaluate a magnetic anomaly due to kimberlite, the previous drilling results are not considered to be definitive. A number of the priority anomalies indicated in the new high precision magnetic survey need to be drilled or re-drilled after geophysical modelling has defined the size, shape and character of the anomaly.

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Introduction:

This assessment report covers the work carried out during the evaluation of the Ridgeway Petroleum Metallic and Industrial Minerals Permits Nos. 9393030126 to 9393030132 & 9393030135 9 permits in the Peace River area during the years 1995 and 1997. The work was carried out for a joint venture of Ridgeway Petroleum Corp., the original holder of the permits and Horseshoe Gold Mining Inc. to provide a detailed, precision, low level helicopterborne magnetic survey over twenty two selected targets of interest, east of Peace River, Alberta. Surveys were flown between February 27 and March 12, 1997 from a base established in Peace River airport. Approximately 2,950 line kilometers of total field magnetic data was collected. This survey was directed at discovering magnetic features related to kimberlitic intrusives and to tectonic structures.

Location & Access

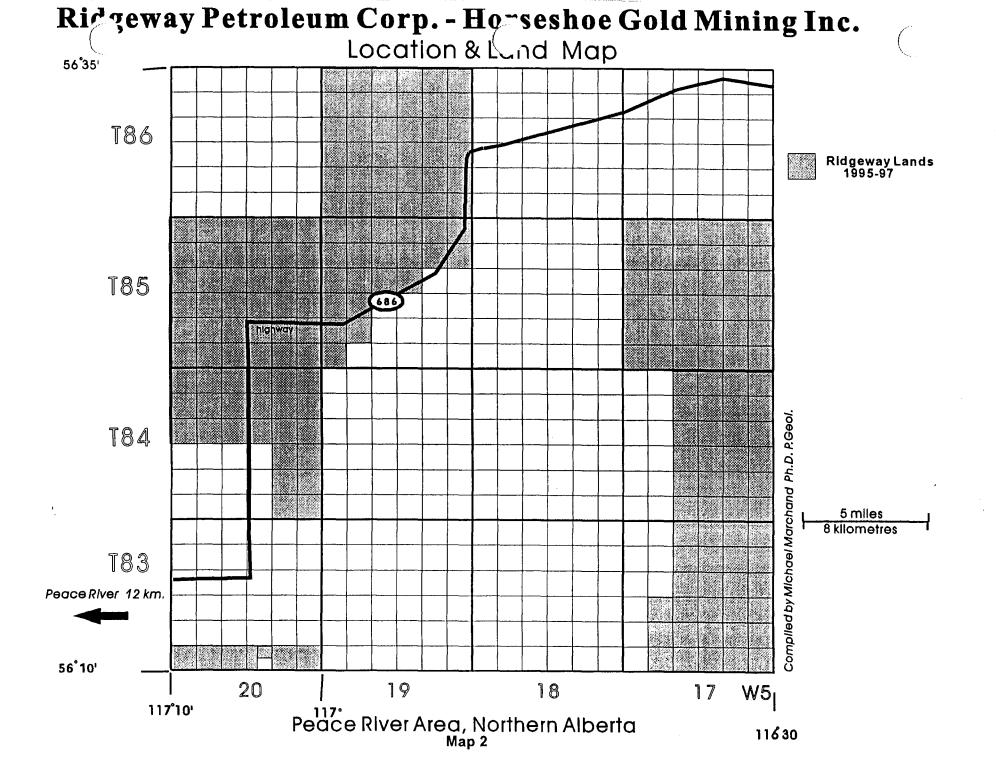
The permits cover 53,696 ha. and are located near Peace River Alberta (Map 1) on NTS map sheet 84C-2,3,6,7 consisting of al or parts of T83 R17 & R20 W5, T84 R17 & R20 W5, T85 R17 & R19 -20 W5, T86 R19 W5. The town of Peace River lies 150 km NE of Grand Prairie and 370 km NW of Edmonton. Peace River is a town with a population of 6700 with good infrastructure and daily scheduled airline service. Within the targeted area, terrain is generally flat, overlain by a thick northern pine forest of average 90 ft. in height. Access to the property was by helicopter from the town of Peace River.

The permits are presented graphically on Map 2 and a detailed list of the permits is presented as Table 1.

Regional Geology:

The permits cover a portion of the Peace River Arch (PRA) tectonic zone. The PRA is a cratonic uplift that was formed at a high angle to the passive margin of the Western Canadian Sedimentary Basin during the late Proterozoic and was active in a variety of modes and times throughout the Phanerozoic. During the activity of the PRA, faulting was extensive with reactivation





	Ridgeway Petroleum Corp.				
	F	lorseshoe C	Gold Mining Inc.		
		1	997		
	Minera	I & Indust	rial Mineral Permits		
		Peace Rive	r Area, Alberta		
Permit Number	Date Issued	Aggregate Area	Description		
		hectares			
9393030126	Mar 12 1993	6912	5-17-083: 1-5,8-17,21-28,33-36		
9393030127	Mar 12 1993	1472	5-20-083: 1;2;3N,SW;4-6		
9393030128	Mar 12 1993	6144	5-17-084: 1-4, 9-16, 21-28, 33-36		
9393030129	Mar 12 1993	6144	5-20-084: 1-2;11-14; 19-36		
9393030130	Mar 12 1993	9216	5-17-085: 1-36		
9393030131	Mar 12 1993	5376	5-19-085: 6-8, 17-22, 25-36		
9393030132	Mar 12 1993	9216	5-20-085 1-36		
9393030135 Mar 12 1993 9216 5-19-086: 1-36					
	· ·	53696	Total Area		

Table 1

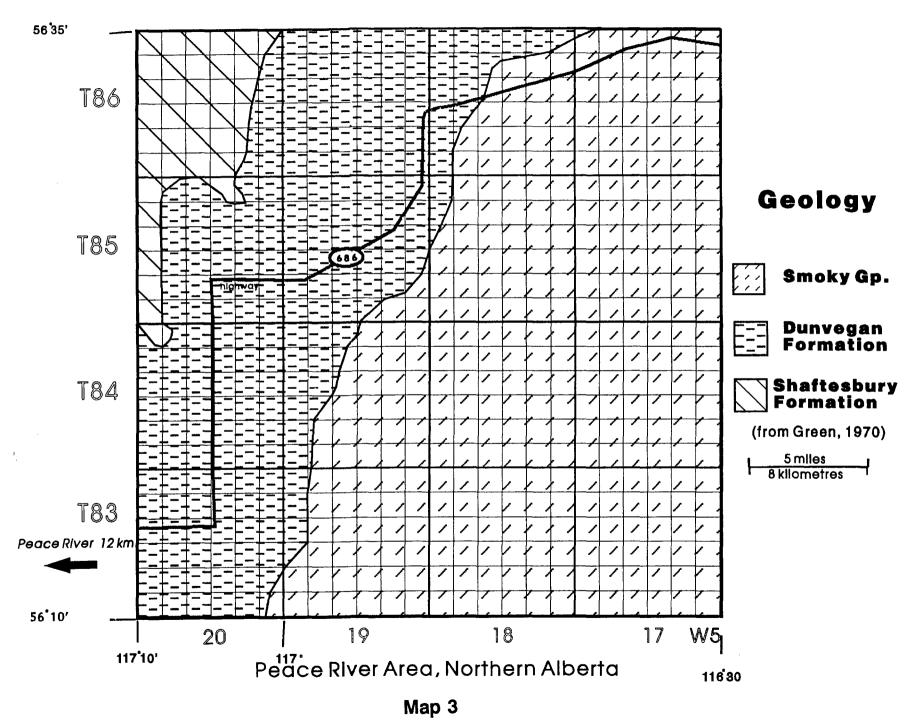
of Archean and Proterozoic faults a significant event. This occurrence of major faulting through the basement rocks provides excellent ground preparation for later kimberlite and lamproite events. They provide the pre-existing conduits for the younger kimberlitic intrusions to follow, potentially picking up the diamonds from the top of the mantle. The PRA has been re-activated a number of times in its history.

The Geological Survey of Canada has produced a number of studies and papers of the crustal structure beneath the Alberta portion of the basin. These studies are an integrated interpretation of the regional magnetic and gravity data, some recent seismic refraction studies and a program of U-Pb geochronology on samples from the wells that penetrated the Precambrian basement. The basement in the Peace River area is underlain by a cratonic block fringed by a metasedimentary belt. This cratonic block has been interpreted as "a complex region of crustal fragments" which may have allowed the preservation of old deep mantle roots that are the fertile regions for diamond generation and preservation.

Permit Geology

The bedrock surface lithology within the permit blocks are sedimentary formations of Upper Cretaceous age. (Map 3) The published geological Map (Green et al., 1970) indicates that the westerly portion of the project area is covered by dark grey shales of the Smoky Group, the northern and eastern portion of the project are underlain by feldspathic sandstone of the Dunvegan Formation. There is also a small amount of Shaftsbury Formation indicated outcropping in T84-85 R20 along the edge of the Peace River Valley. No actual ground mapping was carried out on the permits. It appears from the air photos and the diamond drilling that much of the area is heavily covered by drift. All four holes in the 1995 diamond drilling encountered approximately 200 ft of overburden.

R(geway Petroleum Corp. - [)rseshoe Gold Mining Inc.(



Aeromagnetic Survey:

High-Sense Geophysics Limited was contracted by Ridgeway Petroleum Corporation to provide a detailed, precision, low level helicopterborne magnetic survey over twenty two selected target areas of interest, east of Peace River, Alberta. Surveys were flown between February 27 and March 12, 1997 from a base established in Peace River airport. Approximately 2,950 line kilometers of total field magnetic data was collected. The survey was flown at a line spacing of 50 m with an altitude of 20 m for the magnetic sensor. Details of survey are presented as Appendix 'C', "Logistics Report for a Detailed Helicopter Magnetic Survey over Twenty Two Targets Near Peace River, Alberta by High-Sense Geophysics Limited".

The magnetic targets identified and flown are identified by anomaly number in Table 2 and shown on Map 4. These anomalies were initially identified in 1993 (Marchand, 1995) where analysis of the filtered magnetic maps and profiles produced a total of 26 significant anomalies. The anomalies were located on air photos and none appeared to have any obvious correlation with manmade structures. These anomalies start close to surface and continue to at least 200-300 m depth and with a width of approximately 200 m. This is the type of signature envisioned for a pipe-like kimberlite intrusion and is not representative of any other known geological feature in the area. The anomalies that were eventually drilled in 1995 (Marchand, 1995) were depth modelled which indicated that the top of the anomaly should be within 50 metres of surface and continue down to at least 200 metres depth. In 1995 four of the five priority anomalies (17,18,19,20,26) resulting from this analysis were diamond core drilled (Map 4) (Marchand, 1995).

The 1997 survey was flown to cover the identified magnetic anomalies from the 1993 Aerodat magnetic survey which was flown at 100 m line spacing from a fixed wing aircraft. The anomalies from the 1993 survey had been chosen after enhanced filtering and some depth modeling by a geophysical consultant. These filtered maps show some of the same general features, albeit in much less detail, as the current High-Sense Geophysics Limited maps (Map Pocket). However the detail available and the significant magnetic texture observed in the new maps better defines some of the current anomalies and provide much more information on the structure and possible geology of the area. The quality and accuracy of the 1997 survey is such that no ground survey will be required to

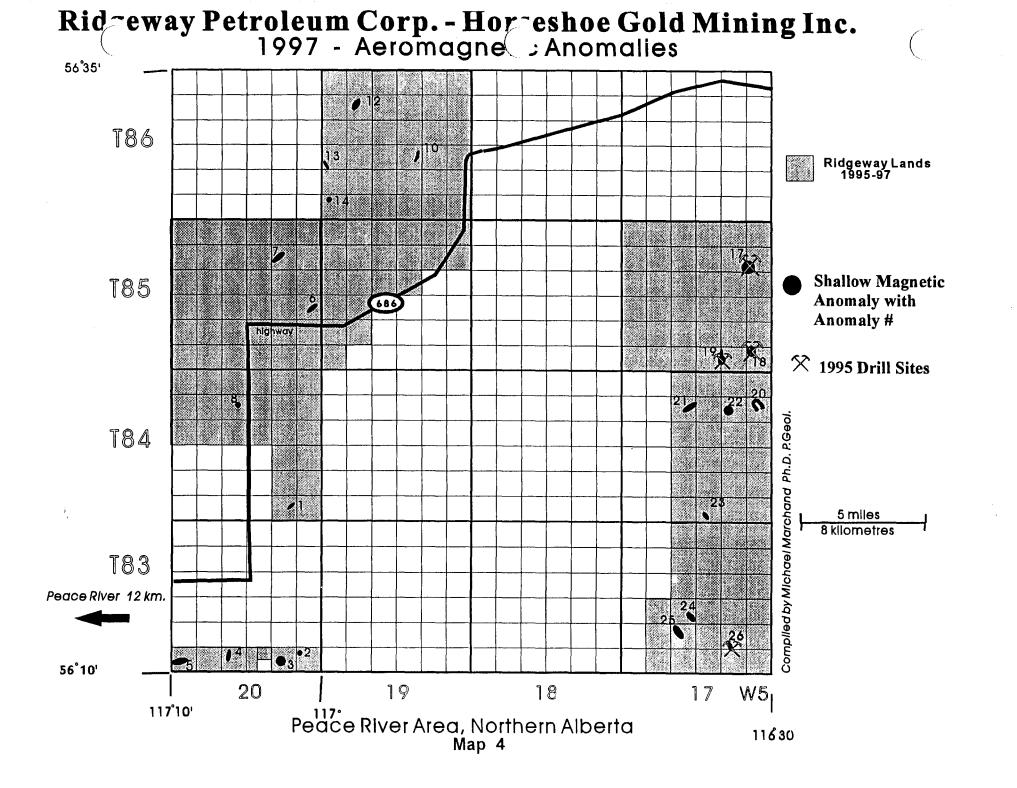
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Table 2					
Aeromag	Aeromagnetic Survey - 1997 - Anomaly Rating				
Northing	Easting	Twp	Rge	Priority	Anomaly
6234400	498000	84	20	Level M	#1
}	499100	<u> </u>	20		2
6225000		83			
6224100	497150	83	20	M	3
6224800	493750	83	20		4
6224100	490000	83	20	M	5
6246800	499200	85	20	M	6
6250200	496785	85	20	0	7
6240900	494200	84	20	M	8
6256600	506000	86	19	0	10
6260200	501800	86	19	L	12
6256600	499900	86	19	0	13
6254000	500500	86	19	0	14
6250280	527520	85	17	<u> </u>	17
6244450	527800	8 5	17	Н	18
6244000	525800	85	17	M	19
6241380	528900	84	17	H	20
6240800	523950	84	17	Н	21
6240400	526025	84	17	M	22
6234000	524900	84	17	0	23
6227200	523800	83	17	L	24
6226400	522900	83	17	L	25
6225560	526200	83	17	M	26
		omaly	Rating	Legen	
	0			w Priorit	
	L	Low Pr			
1	М				
	Н	High P	riority		

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site any proposed drill holes. In some areas there is so much magnetic texture and character that it is difficult to pick out potential anomalies that may be obscured without additional geophysical processing and modeling.

The area was flown as separate *map sheets* containing one or more anomalies (targets). The terms targets and anomalies are used synonymously in this report. These will be reviewed below on a map sheet by map sheet basis in approximate order of decreasing importance. The anomalies were reviewed and categorized by visual inspection of the maps (Map Pocket) and then compared to the previous maps (Marchand, 1995). No additional processing of the data has been done at this time. A number of the maps sheets need to have additional geophysical processing and modeling carried out on them as they contain significant anomalies and magnetic patterns prior to drilling. This process has the potential to uncover additional anomalies worthy of drilling.

Geophysical modeling mentioned in the recommendations below refers to a process of filtering the magnetic profiles and carrying out depth modeling on selected results from the filtering. This process is the same procedure that they carried out on the original 1993 survey data. It was very successful in pinpointing the anomalies of particular interest rapidly and needs to be carried out on the new data on many of the map sheets and anomalies identified below.

Conclusions and Recommendations:

The survey confirms the presence of 17 prospective targets that require drilling to test for the presence of kimberlite. Computer-assisted geophysical modeling should be carried out on a number of map sheets and anomalies before any field activities. The drill core from the drilling in 1995 should be closely examined for traces of crater facies of kimberlite. Magnetic susceptibility measurements of sections of the drill core should be made if feasible in order to use those values for more precise magnetic modeling. A significant feature interpreted as a major fault zone was identified on Map Sheet - Targets 18, 19, 20, 21, 22, extending across the whole map sheet in a NE-SW direction and up to 300 m in width. The anomalies are reviewed individually below and reference the map sheet in the map pocket by name. (IE. Targets XX).

Anomaly Number

Total # of Anomalies

Anomaly rating - H - High	17,18,20,21	4
M - Medium	1,3,5,6,8,19,22,26	8
L - Low	2,4,12,24,25	5
0 - Very Low	7,10,13,14,23	5

Map Sheet - Target 17

Rated - H

The prime visual anomaly stands out sharply on the map. It is of an approximate size 200 x 300 m and occurs along a significant structural feature. The surface expression of this target has a tonal fingerprint on the air photo. It was diamond drilled in 1993 but drilling was very troublesome because a high pressure artesian water flow was intersected allowing only a 1 foot penetration of the bedrock. This renders the hole as inconsequential and does not disqualify this anomaly from additional serious consideration. It needs to be properly drilled with several holes. Depth modeling of the new magnetic data should be carried out on the anomaly.

Map Sheet - Targets 18, 19, 20, 21, 22 General Comments:

Magnetic patterns are very prominent on this map sheet. There is a major NE-SW linear feature that extends from one edge of the map to the other, a distance of 8 km. Coordinates of the end points are 56°18' 22" 116°36' 26"; 56°21' 16" 116°32' 00".

Anomaly 18

Rated - H

This is a complex and significant magnetic feature that has a potential size of 200×300 m. It occurs along a major linear feature that extends from one edge of the map to the other, a distance of 8 km. This feature appears to have a variable width up to 300 m wide size in places. This feature trends in a NE-SW direction and may be a significant shear zone. This anomaly was drilled to a depth of 159 m in 1995 and did not appear to intersect kimberlite. However as we now know that kimberlites can be very complex bodies and a single hole into such a significant looking feature is not adequate to test it. Geophysical modeling of this feature should be carried out prior to the additional drilling which warranted.

Anomaly 21

Rated - H

Anomaly 21 (150 x 350 m) lies along the southern portion of the same shear zone as mentioned above for anomaly 18 which makes it an interesting anomaly worthy of geophysical modeling.

Anomaly 19

Rated - M

Anomaly 19 (200 x 150 m) lies to the north and adjacent to the above mentioned shear zone on a possible subsidiary structure. It occurs in a zone of complex anomalies. Not only should anomaly 19 be subjected to geophysical modeling but so should the whole cluster of anomalies within 1.5kilometer radius of this anomaly. Anomaly 19 was drilled in 1995 but only 6 m of bedrock was penetrated. Considering the shape of the anomaly, the drill could easily have missed the target and additional drilling is warranted if supported by the geophysical modeling.

Map Sheet - Target 20

Rated - H

Anomaly 20 is a horseshoe shaped complex of magnetic highs around a central low. Portions of these anomalies form part of a linear feature; one lobe appears to be more circular. The size of this complex is significant being 600×200 m on one lobe and 200×300 m on the other lobe. This whole cluster of anomalies should be geophysically modeled and analyzed; a drilling decision being result driven but it would appear that some of the anomaly would definitely be worth drill testing.

Map Sheet - Target 22

Rated - M

Anomaly 22 is a relatively small $100 \ge 200$ m anomaly that should be modeled and compared with other anomalies on this map sheet.

Map Sheet - Targets 24,25,26

General Comments:

There is a significant amount of magnetic texture the total field map. Geophysical filtering and modeling needs to be carried out throughout the map sheet to determine the sources of the magnetic features and to determine if potential for kimberlite intrusions exist. Subtle NW trending linears are evident on the map sheet.

Anomalies 24, 25, and 26 need to be modeled and re-interpreted in the context of the whole map sheet; other features may become targets as a result of this process.

Anomaly 24

Rated - L

Anomaly 24 appears very subtle on the total field map. The anomaly is 300×100 m in size and appear to lie on a subtle linear linking it to anomaly 25. This is a low priority anomaly.

Anomaly 25

Rated - L

Anomaly 25 is a 400 x 150 m magnetic feature on a subtle NW trending linear that extends about 4 km across the map sheet. This anomaly is irregularly shaped and is low priority.

Anomaly 26

Rated - M

Anomaly 26 is an intense anomaly 100 x 150 m in size and shows up well on the total field map. This anomaly was drilled in 1995. Durvegan Formation sandstone with unusual rock clasts

was intersected. The area surrounding the anomaly is very active magnetically.

Map Sheet - Target 8

Rated - M

This 250 x 250 m anomaly is enigmatic and definitely needs to be followed-up with geophysical modeling and further examination.

Map Sheet - Target 6

Rated - M

This is a linear north-west trending anomaly and the improved definition of this magnetic survey downgrades this anomaly. The form is untypical for a pipe-shaped body but a dyke shaped body is possible. This anomaly is worthy of additional geophysical modeling.

Map Sheet - Target 1

Rated - M

This is a linear anomaly that appears to have a character unlike some of the other low priority linear anomalies. This one is in definite need of geophysical modeling

Map Sheet - Target 5

Rated - M

The texture and shape of this anomaly is not obviously favourable to be a kimberlite as it appears in stream valleys and appears that it may reflect a sedimentary horizon. However its size is such that a kimberlite could be contained within it. It needs to be modeled geophysically.

Map Sheet - Target 2

Rated - L

This anomaly takes the texture and shape of the NW trending magnetic linears on the map. While this makes the anomaly of lower priority, its size of 250×300 m makes it permissive to contain a kimberlite body. It needs to be modeled geophysically.

Map Sheet - Target 4

Rated - L

This anomaly is in an area of linear magnetic features but its direction goes against the magnetic grain of the area. While it is of low priority, it should be modeled geophysically.

Map Sheet - Target 3

Rated - L

This anomaly is at the intersection of two significant magnetic linears and appear possibly to be part of another structure. Geophysical modeling and additional examination of this anomaly is warranted.

Map Sheet - Target 12

Rated - L

This anomaly lies in an area of complex magnetic features and textures, which may include a fault intersection. Anomaly is small and linear and probably not of kimberlitic origin.

Map Sheet - Target 13

Rated - 0

Anomaly is small with no obvious depth component on an apparent significant fault feature. Its is unlike to be related to an intrusion of kimberlitic affinity.

Map Sheet - Target 14

Rated - 0

Anomaly appears to be shallow and small and does not warrant any further work at this time.

Map Sheet - Target 7

Rated - 0

This anomaly is a very strong feature but suggestive of an origin within the sedimentary units and not typical of kimberlitic intrusions.

Map Sheet - Target 23

Rated - 0

This small anomaly represents one end of a NW trending linear magnetic feature. It does not look like the signature of a kimberlitic body.

Map Sheet - Target 10

Rated - 0

This anomaly is a linear anomaly along a stream valley and the improved definition downgrades this anomaly; it is unlikely to represent a kimberlitic source.

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CERTIFICATE

I. Michael Marchand, of in the City of Calgary in the Province of Alberta, do hereby certify that:

- 1. I am an independent Consulting Geologist.
- 2. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- 3. I am graduate of McGill University, B.Sc. (honours) Geology 1967, M.Sc. Geology 1970 and a graduate of McMaster University with a Ph.D. Geology 1976.
- I have worked continually in the Geosciences for the past 22 years.
- 5. I do own a royalty on the permits described in this report and do have a minor holding in stock of Ridgeway Petroleum Corp.
- 6. I am the author of this report entitled "Exploration Program on the Horseshoe Property, Peace River Area, Alberta", dated June 25, 1997.

Dated at Calgary, Alberta this 25 th day of June, A.D. 1997.

Respectfully Submitted,

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Michael Marchand, B.Sc., M.Sc, Ph.D., P.Geol



Bibliography

Cant, D.J., 1988, Regional structure and development of the Peace River Arch, Alberta: A Palaeozoic Failed-Rift system ?, Bulletin of Canadian Petroleum Geology, v36, p. 284-295

Dufresne, M.B., Olson, R.A., Schmitt, D.R., Mckinstry, B., Eccles, D.R., Fenton, M.M., Pawlowicz, J.G., Edwards, W.A.D. and Richardson, R.J.H., 1994, The diamond potential of Alberta: a regional synthesis of the structural and stratigraphic setting, and other preliminary indications of diamond potential. Alberta Geological Survey, Alberta Research Council, Open File Report 1994-10, 401 pp.

Green, R., Mellon, G.B., Carrigy, M.A., 1970, Bedrock Geology of Northern Alberta; 1:500,000 scale. Geological map published by Alberta Research Council in two sheets

Helmstaedt, H.H. and Gurney, J.J., 1991, Geotectonic controls of the formation of diamonds and their kimberlitic and their lamproitic host rocks: Applications to diamond exploration. in H.O.A. Meyer and O. H. Leonardos, Eds., Proceedings of the Fifth international Kimberlite Conference, Araxa, Brazil, 1991, Comphania de Pesquisa de Recursos Minerais, Brazil

Marchand, M, 1995, Exploration Program on the Horseshoe Project, Peace river Area, Alberta, Assessment Report for Ridgeway Petroleum Corp and Horseshoe Gold Mining Ltd., 13 pp.

Misra, K.S., Slaney, Graham, D., Harris, J., 1991, Mapping of basement and other tectonic features using Seasat and Thematic Mapper in hydrocarbon-producing areas of the Western Sedimentary Basin of Canada, Can. Jour. Remote Sensing, V17, p. 137-150

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Gravity anomaly map with shaded relief gradient of North America. Geological Survey of Canada, Map 1807A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Isostatic Gravity anomaly map of North America, Geological Survey of Canada, Map 1808A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Horizontal Gradient of the Bouger Gravity Anomaly Map of North America. Geological Survey of Canada, Map 1809A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Vertical Gradient of the Bouger Gravity Anomaly Map of North America. Geological Survey of Canada, Map 1810A, Scale 1:10,000,000

Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F., 1992, Magnetic Field Intensity map

of North America, Geological Survey of Canada, Map 1811A, Scale 1:10,000,000

Podruski, J.A., 1988, Contrasting character of the Peace River and Sweetgrass Arches, Western Canada Sedimentary Basin, Geoscience Canada, V 15 p.94-97

Rheault, M., Simard, R., Garneau, C., and Slaney, V.R., 1991, SAR-Landsat TM-Geophysical data integration: utility of value-added products in geological exploration, Can. Jour. Remote Sensing, V17, p. 185-190

Ross, G.M., Parrish, R.R., Villeneuve, M.E., and Bowring, S.A., 1989, Tectonic subdivision and U-Pb geochronology of the crystalline basement of the Alberta Basin, Western Canada. Geological Survey of Canada, Open File Report 2103

Ross, G.M., 1990, Deep crust and basement structure of the Peace River Arch region: constraints on mechanisms of Formation, Bulletin of Canadian Petroleum Geology, v38A, p. 25-35

Ross, G.M., 1991, Precambrian basement in the Canadian Cordillera: an introduction, Can. Jour. of Earth Sciences. V28, p 1133-1139

Ross, G.M., Parrish, R.R., Villeneuve, M.E., and Bowring, S.A., 1991, Geophysics and geochronology of the crystalline basement of the Alberta Basin, Western Canada, Can. Jour. of Earth Sciences. V28, p 512-522

Ross, G.M., (editor), 1992, Alberta Basement Transects Workshop (March 4-5), Workshop Report # 28, Lithoprobe Secretariat, University of British Columbia, 171pp.

Ross, G.M., (editor), 1993, Alberta Basement Transects Workshop (March 1-2), LITHOROBE Report # 31, Lithoprobe Secretariat, University of British Columbia, 146pp.

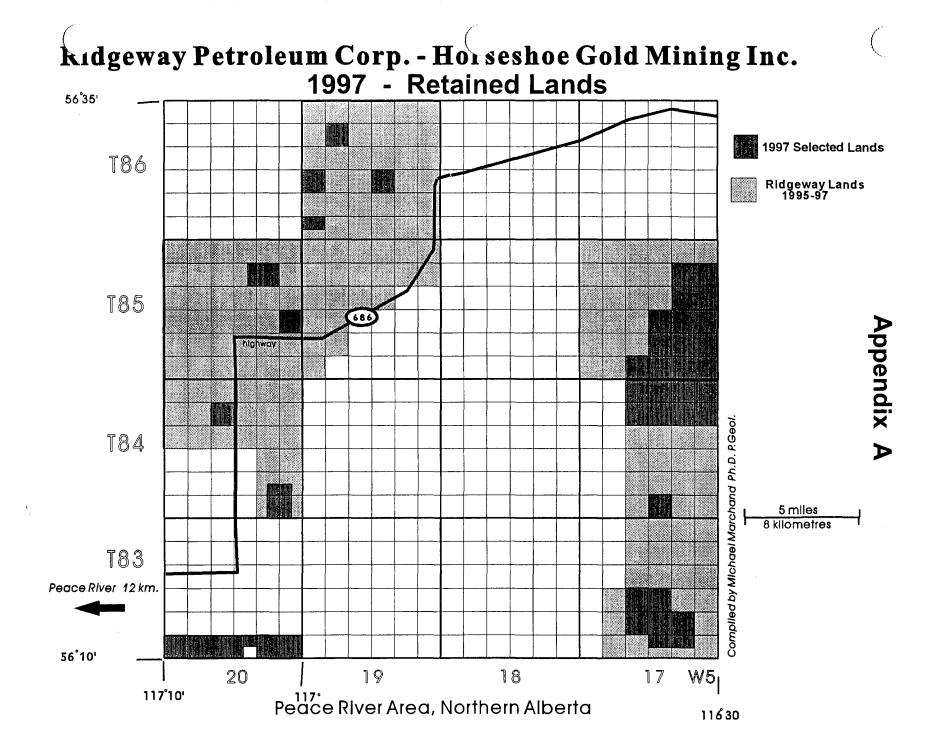
Ross, G.M., (editor), 1994, Alberta Basement Transects Workshop (February 14-15), LITHOROBE Report # 37, Lithoprobe Secretariat, University of British Columbia, 279pp.

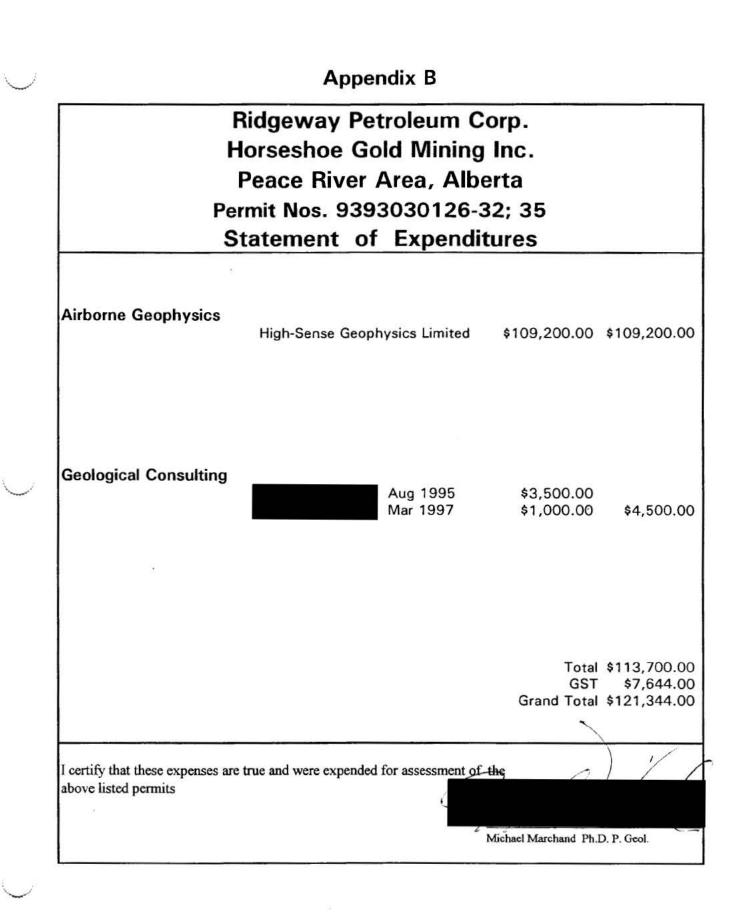
Theriault, R.J. and Ross, G.M., 1991, Nd isotopic evidence for crustal recycling in the ca. 2.0 Ga subsurface of western Canada, Can. Jour. of Earth Sciences. V28, p 1140-1147

Appendix A

		Allocat	ion of Explora	ation Expenses		
Exploration	n Expenses	\$113,700.00				
Add on \$755.58 previously transferred to permit 9393030126		Selected Land 1997				
Permit	Date	1995-97 Land	1995-1997	1997	1997	Exploration
number	Issued	Description	Area (ha)	Selected Areas	Area (ha)	Expenses
9393030126	Mar 12 1993	5-17-083: 1-5,8-17,21-28,33-36	9216	5-17-083: 2N, 3N, 9-11, 15, 16	1536	\$15,360.00
9393030127		5-20-083: 1;2;3N,SW;4-6	7296	5-20-083: 1;2;3N,SW;4-6	1472	\$14,720.00
9393030128	Mar 12 1993	5-17-084: 1-4, 9-16, 21-28, 33-36	9216	5-17-084: 3, 25-28, 33-36	2304	\$23,040.00
9393030129	Mar 12 1993	5-20-084: 1-2;11-14; 19-36	9024	5-20-084: 1W, 2E, 11SE, 12SW, 28	640	\$6,400.00
9393030130	Mar 12 1993	5-17-085: 1-36	9216	5-17-085: 1-4, 10-12, 13-15, 23-26	3584	\$35,840.00
9393030131	Mar 12 1993	5-19-085: 6-8, 17-22, 25-36	9216	Drop whole permit	0	\$0.00
9393030132	Mar 12 1993	5-20-085: 1-36	9216	5-20-085: 13, 26, 27E	640	\$6,400.00
9393030135	Mar 12 1993	5-19-086: 1-36	9216	5-19-086: 6N, 15, 18, 29	896	\$8,960.00
Unallocated e	expenditures	\$3,735.58		Total	11072	\$110,720.00
Transfer unall	ocated expenditu	ures to Permit 9393030130	for remaing period o	f permit		

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Appendix C

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Logistics Report

for a

Detailed Helicopter Magnetic Survey

over

Twenty Two Targets Near Peace River, Alberta

carried out on behalf of

Ridgeway Petroleum Corporation

by

High-Sense Geophysics Limited



Toronto, Canada March, 1997 970220-4 (Peace River, Alberta)

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1. INTRODUCTION

In February of 1997, High-Sense Geophysics Ltd. was contracted by Ridgeway Petroleum Corporation to provide a detailed, precision, low level helicopterborne magnetic survey over twenty two selected targets of interest, east of Peace River, Alberta. Surveys were flown between February 27 and March 12, 1997 from a base established in Peace River airport. Approximately 2,950 line kilometers of total field magnetic data was collected, processed and plotted on-site.

The technical objective of the survey was to provide 'in-field' preliminary magnetic maps with a resolution comparable to ground surveys, suited for target delineation, detailed structural evaluation and identification of lithologic trends. Fully corrected magnetic maps were prepared by High-Sense's Toronto office after completion of survey activities.

2. LOCATION

The twenty two targets are scattered in a 40x40 km area 20 km east of Peace River, northern Alberta, please see a schematic layout of all targets in Appendix B. Within the targeted area, terrain is generally flat, overlain by a thick northern pine forest of average 90 ft. in height. Some targets cover private established build-up areas, notably targets 1, 2, 4, 5, 6, and 8.

UTM coordinates (NAD 27 Zone 11 - central meridian 117°W) for the the targets are listed below:

Target 1

Corner No.	Easting (m)	Northing (m)
1	497200	6232850
2	497200	6235950
3	498800	6235950
4	498800	6232850

Target 2

Corner No.	Easting (m)	Northing (m)
1	498300	6223450
2	498300	6226550
3	499900	6226550
4	499900	6223450

Target 3			
	Corner No.	Easting (m)	Northing (m)
	1	496350	6222050
	2	496350	6225150
	3	497950	6225150
	4	497950	6222050
Target 4	Corner No.	Easting (m)	Northing (m)
	1	492950	6223250
	2	492950	6226350
	3	494550	6226350
	4	494550	6223250
Target 5	Corner No.	Easting (m)	Northing (m)
	1	489200	6222050
	2	489200	6225150
	3	490800	6225150
	4	490800	6222050
Target 6	Corner No.	Easting (m)	Northing (m)
	1	498400	6245250
	2	498400	6248350
	3	500000	6248350
	4	500000	6245250
Target 7	Corner No.	Easting (m)	Northing (m)
	1	495985	6249150
	2	495985	6252250
	3	497585	6252250
	4	497585	6249150
Target 8	Corner No.	Easting (m)	Northing (m)
	1	493400	6239350
	2	493400	6242450
	3	495000	6242450
	4	495000	6239350

	Target 10			
	I urget i v	Corner No.	Easting (m)	Northing (m)
		1	505200	6255050
		2	505200	6258150
		3	506800	6258150
		4	506800	6255050
	Target 12			
	-	Corner No.	Easting (m)	Northing (m)
		1	501000	6258650
		2	501000	6261750
		3	502600	6261750
	``````````````````````````````````````	4	502600	6258650
	Target 13, 14	- ···		
		Corner No.	Easting (m)	• • •
		1	499200	6252500
		2	499200	6258200
		3	501300	6258200 6252500
		4	501300	0232300
	Target 17			
	1	Corner No.	Easting (m)	Northing (m)
		1	525770	6248480
		2	525770	6252080
		3	529270	6252080
		4	529270	6248480
	Target 18,19,20,21,22		Fasting (m)	Northing (m)
		•	523000	6240000
		1 2	523000	6243000
		3	525000	6243000
		4	525000	6245200
		5	529700	6245200
		6	529700	6240000
		-		
	Target 23			
	- 8	Corner No.	Easting (m)	Northing (m)
		1	524100	6232450
·		2	524100	6235550
		3	525700	6235550
		4	525700	6232450

## Target 24,25,26

,

Corner No.	Easting (m)	Northing (m)
1	521600	6225400
2	521600	6228400
3	527000	6228400
4	527000	6224400
5	524000	6224400
6	524000	6225400

#### 3. AIRCRAFT AND EQUIPMENT

### 3.1 Aircraft

The aircraft used was a Bell 206B jet ranger helicopter (C-FJAD) owned and operated by Great Slave Helicopters, Yellowknife, N.W.T. Installation of the geophysical and ancillary equipment was carried out by personnel of High-Sense Geophysics Limited.

## 3.2 Airborne Geophysical System

#### 3.2.1 Magnetometer

The High-Sense GFCS-II flight control system was coupled with an optically pumped cesium split beam sensor (Scintrex H-8) - the latter mounted in the nose of the towed bird. The Larmor frequency output was processed by a High-Sense magnetometer counter board that provides a resolution of 0.01nT with a noise level of better than 0.1nT and a sampling rate of ten times per second.

#### 3.2.2 Electronic Navigation

A Novatel 3951R twelve channel GPS, and LANDSTAR real time differential receivers, which are integral parts of the HS-GFCS-II system, was utilized for flight control. The GPS and LANDSTAR receivers were mounted on the towed bird to provide more precise magnetometer positioning.

#### 3.2.3 Altimeter

A Terra 3500 radar altimeter was mounted on the towed bird. This instrument operates to zero clearance and records the terrain clearance of the helicopter.

#### 3.2.4 Geophysical Flight Control System

The High-Sense GFCS-II geophysical flight control system monitored and recorded magnetometer, altimeter and GPS equipment. Input from the various sensors was monitored every 0.005 seconds for precise coordination of geophysical and position measurements. GPS position coordinates and terrain clearance of the towed bird were presented to the pilot by means of LCD touch screen display.

The magnetometer response, the 4th difference, and altimeter profile were also shown on the LCD touch screen display for real time monitoring of equipment performance.

### 3.2.5 Digital Recording

The output of the magnetometer and altimeter, real time differentially corrected UTM positions as well as the uncorrected GPS coordinates, were recorded digitally on disk at a sample rate of ten times per second by the HS-GFCS-II system. Line number, GPS time and system time were also recorded for use during subsequent differential GPS correction using our own base monitoring station data.

## 3.3 Ground Monitoring System

#### 3.3.1 Magnetometer

A GEM Systems Overhauser magnetometer (GSM19W) was operated as a base station to record diurnal variations of the earth's magnetic field. Readings with a resolution of 0.1 nT were recorded digitally every second, and synchronized with GPS time for accurate correction of the airborne data.

#### 3.3.2 GPS Monitor

A Novatel 3751 twelve channel receiver with a fixed antenna was also active at the base of operations. Raw satellite data was digitally recorded to enable differential correction of the corresponding uncorrected airborne GPS data.

#### 3.3.3 Recording

The output of the magnetic and GPS monitors was recorded digitally on a dedicated PC. A visual record of the last forty minutes of activity is graphically maintained on the computer screen to provide an up-to-date appraisal of significant activity. At the conclusion of each production flight, raw GPS and magnetic data were transferred to the main compilation computer.

## 3.4 Field Compilation System

A Pentium PC computer and a Hewlett Packard DeskJet colour printer were used for field data processing and presentation. Processing software and procedures were developed by High-Sense Geophysics Limited, and include the Geopak RTICAD imaging system.

## 4. PERSONNEL

## 4.1 Field Operations

High-Sense project geophysicist	: Karl Kwan, M.Sc.
Helicopter pilot	: Rick Gerundin
Great Slave Helicopter engineer	: Casey Ling

## 4.2 Project Management

Ridgeway Petroleum Corp. Calgary office	: Walter B. Ruck
	: Dr. Michael Marchand
High-Sense, Toronto office	: Ted Urquhart, Ph.D.
	: D. Blair Walker, B.Sc.

## 5. SURVEY PARAMETERS

Traverse Line spacing	: 50 m	
Control Line spacing	: 500 m	
Nominal Terrain clearance	: 20 meters sensor height 40 meters aircraft height	
Navigation	: Real-time differential GPS	
Traverse Line direction	: NS	
Control Line direction	: EW	
Measurement interval	: 0.1 sec	
Airspeed (nominal)	: 70 mph (115 km/hr)	
Measurement spacing (nominal)	: 10 feet (3.1 meters)	
Airborne Digital Record	: Radar Altimeter	
-	Total Field Magnetics	
	Time (Local and GPS)	
	Raw Global Positioning System (GPS) data	
Base Station Record	: Ambient Total Field Magnetics	

( no pre-established activity limit ) Raw Global Positioning System (GPS) data Time (Local and GPS)

### 6. OPERATIONS AND PROCEDURES

## 6.1 Flight Planning

Target outlines were specified by Ridgeway Petroleum Corp. (section 2.0), and the coordinates used to generate pre-calculated navigation files. These, in turn, were used by the airborne data acquisition system to plan flights at the designated line spacings. Additional information is provided in Appendix A.

### 6.2 Base Station

During the course of survey operations, a magnetic and GPS base station site was established at Peace River airport. The GPS antenna should be located at an accurately surveyed position point, since positional errors are carried through to the differentially corrected data. Because no control point was available, the location of the GPS antenna was determined by recording several hours of GPS data and averaging the resulting antenna coordinates (the assumption being that deliberate errors introduced by military 'selective availability' satellite signal distortion will average to zero over a long period of time).

The position fix determined for the base station was :

560 13'	48.5000" N	565 m asl
117º 27'	0.5000'' W	(WGS 84 spheroid)

#### 6.3 Data Compilation

Data recorded by the airborne and base station systems was transferred to the field compilation system. As each flight and/or area was completed, the following compilation operations were carried out.

#### 6.3.1 Flight Path Correction

The airborne GPS data was differentially corrected to remove errors introduced by 'selective availability', an intentional accuracy degradation method used by the military. The correction process uses the known fixed location of the base station to calculate the error associated with each satellite. These errors are then removed from the survey GPS data enabling a position to be calculated with an accuracy in the order of three meters, with four or more satellites in view. Satellite visibility and coverage was good throughout field operations. Both GPS receivers were generally tracking a minimum of eight satellites.

The navigational correction process yields a flight path expressed in WGS 84 Latitude-Longitude coordinates. Transformation to local Clarke 1866 UTM coordinates used the following projection parameters :

Semi-major axis (a)	Flattening (f)
6378137.0	298.257223563
6378206.4	294.9786982

Local datum shift applied :

Delta X	:	7
Delta Y	:	-162
Delta Z	:	-188

UTM central meridian =  $117^{\circ}$  W (Zone 11)

False Easting	:	500,000
False Northing	:	0

#### 6.3.2 Magnetic Corrections

The diurnal variations recorded by the base station were subtracted directly from the aeromagnetic measurements to provide a first order diurnal correction. When the magnetic variations are noted to occur due to man-made causes, such as equipment passing by the sensor, they are edited out prior to applying the diurnal correction.

Optically pumped magnetic sensors have an inherent heading error, typically several nanoTeslas peak-to-peak, as the sensor is rotated through 360 degrees. On reciprocal flight line directions the heading error is reasonably predictable; corresponding correction was made on the basis of aircraft heading.

Control lines spaced at variable intervals were flown parallel to the long axis of the survey areas, to be used as a second order, final diurnal correction. Residual differences between the control and traverse lines were used to carry out a further refinement of diurnal and heading errors. A sloping linear datum correction was applied to the profile data to provide the final levelled values.

## 6.3.3 Map Products and Digital Data

Corrected preliminary total field magnetic maps (1:10,000) were produced on-site immediately following completion of each target.

Following processing in the Toronto office, final map products, plus final digital data (CD-ROM), extraction software and this logistics report were delivered to Ridgeway Petroleum.

- 1:10,000 black and white flight paths with UTM reference grid 1 mylar copy,
- 1:10,000 total field intensity magnetics colour image with contours, flight paths, and UTM reference grid - 5 paper copies,
- 3. 1:10,000 total field intensity magnetics contours with flight path and UTM reference grids - 5 paper copies, 1 mylar copy.
- 1:10,000 calcalated vertical derivative colour image with contours, flight paths, and UTM reference grid - 5 paper copies.

## 6.3.4 Ground Reference Markers

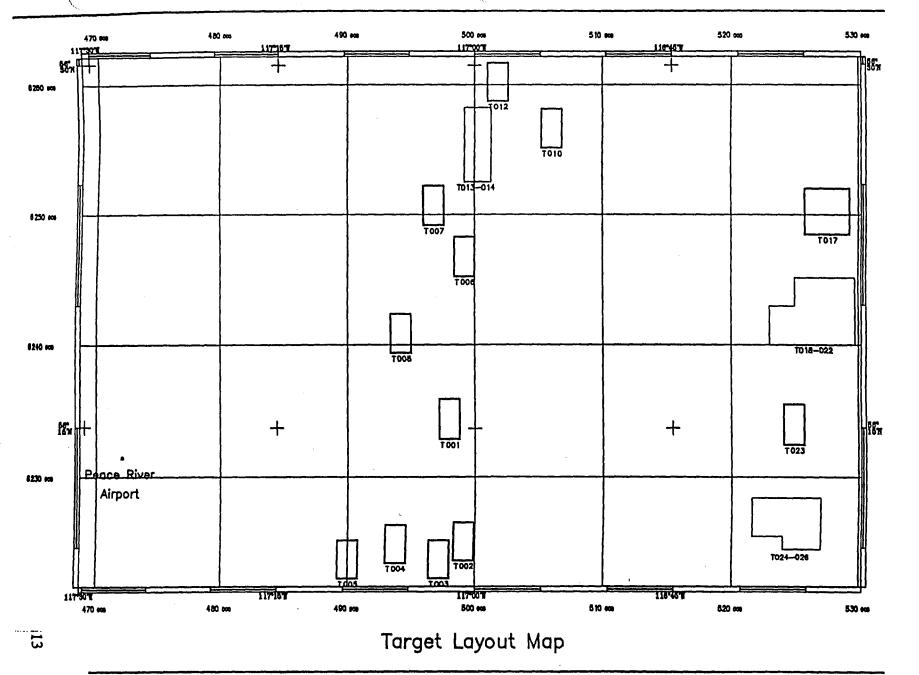
No ground reference markers were positioned within, or adjacent to, any of the survey areas.

#### Respectfully submitted

Karl Kwan, M.Sc. Geophysicist

## APPENDIX A: TARGETS SUMMARY

Target Number	Survey line-kms
- 1	119
2	115
3	114
4	100
5	108
6	87
7	120
8	96
10	121
12	121
13,14	279
17	299
18-22	702
23	121
24-26	452



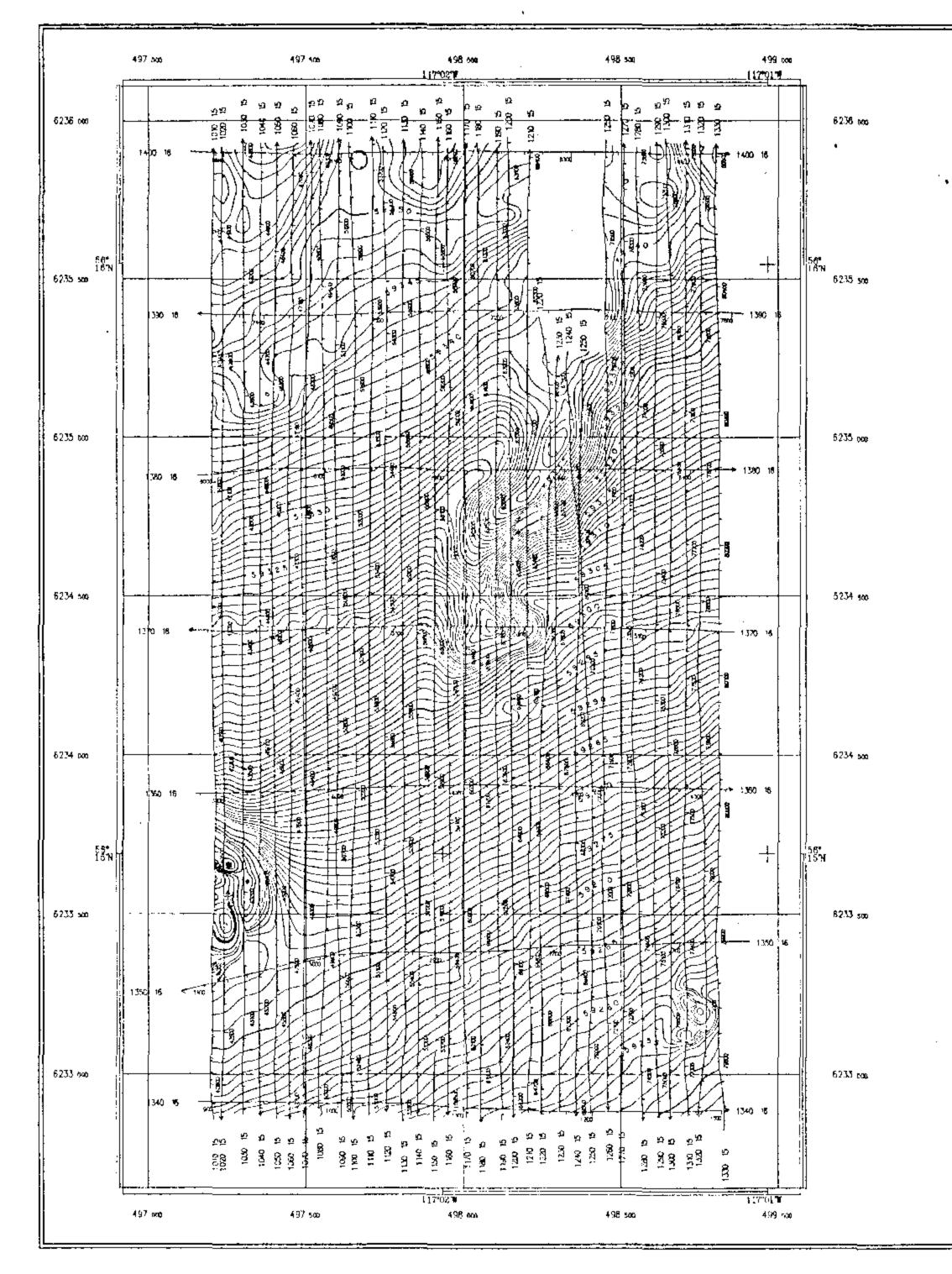
**APPENDIX B: TARGET LOCATION MAP** 

• •

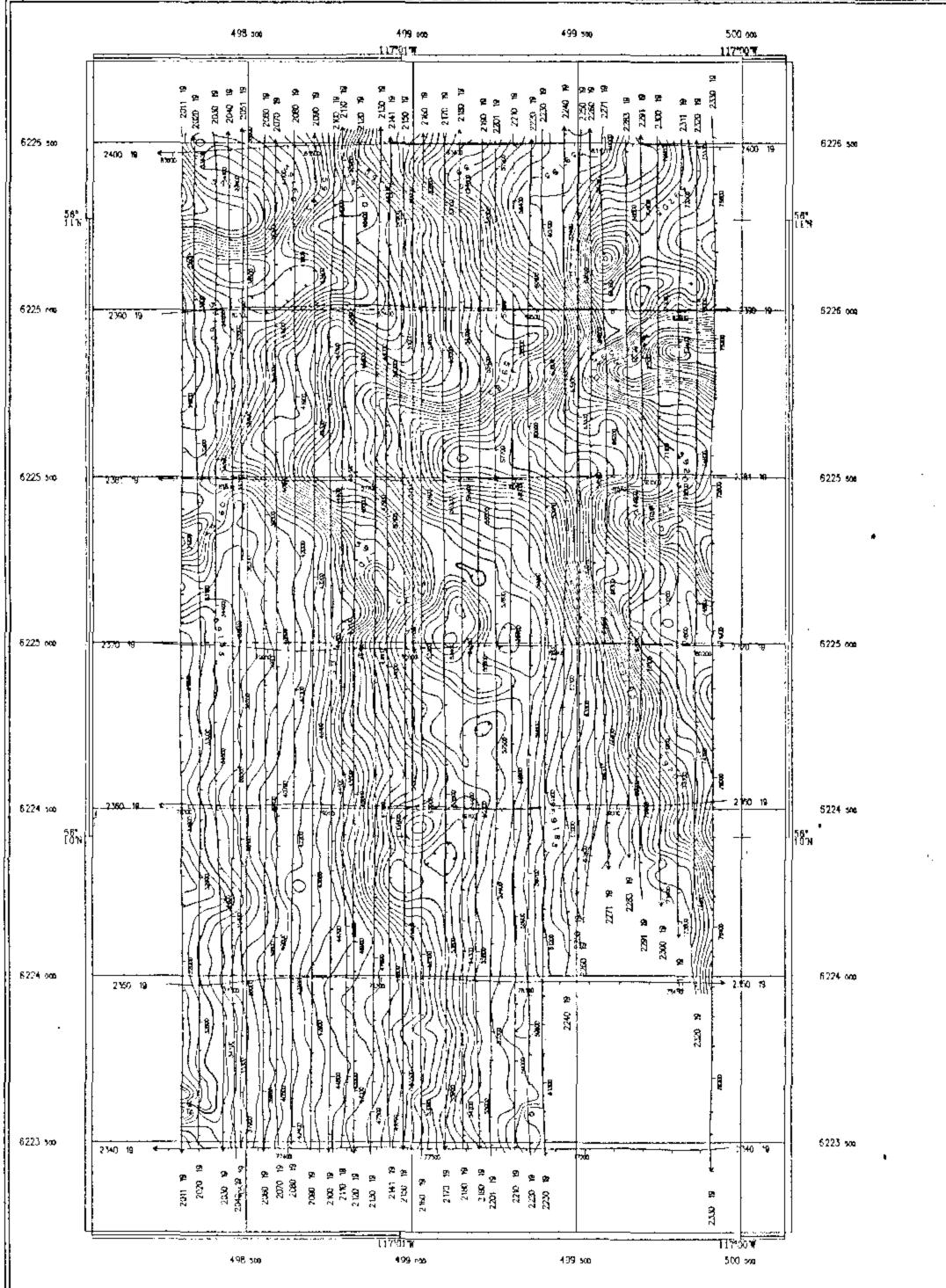
A CALLER AND A CALL

# Map Pocket

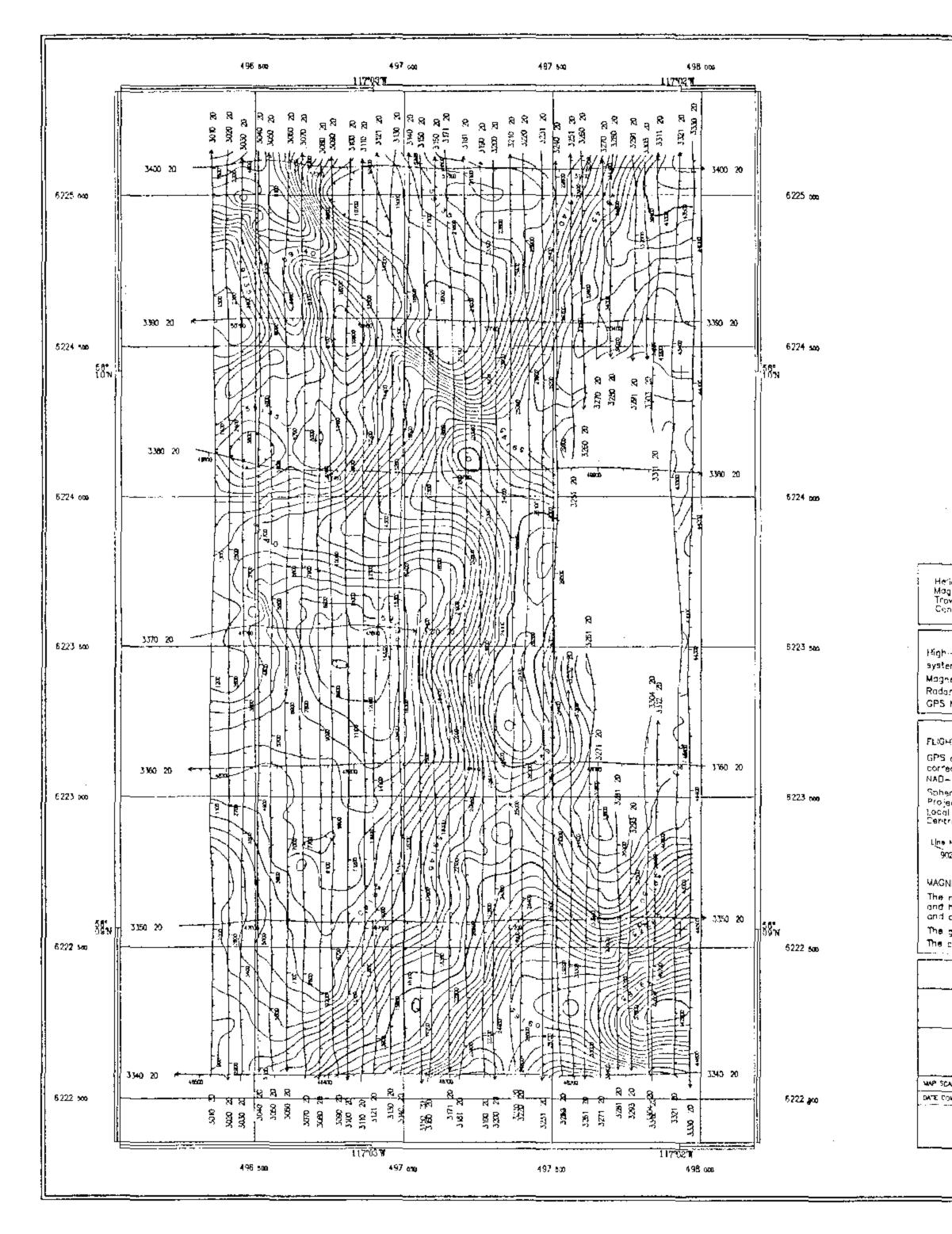
Total Field Magnetics - 15 Maps



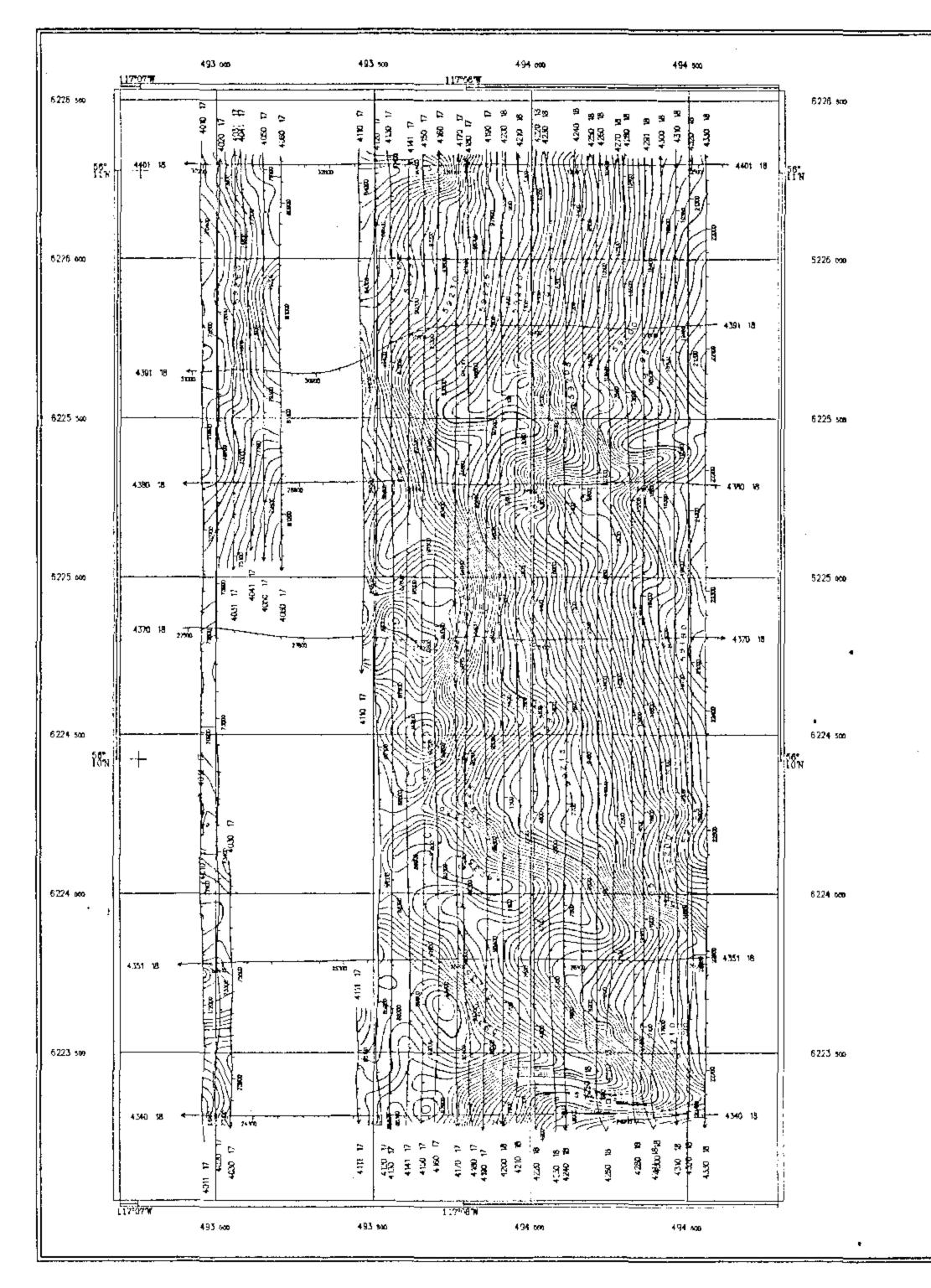
anaçavian itat, coman EQME 9 140 acces soda
SURVEY SPECIFICATIONS Helicopter altitude; 40 m M.T.C. Mag sensor bird altitude: 20 m M.T.C. Traverse line spacing and direction: 50 m NS Control line spacing and direction: 500 m FW
EOU/PMENT
High-Sense MiniMog System with a CFCS II flight control system
Magnetometor: Scintrex H+B cesium Radar Atimeter: Terra 3500 GPS Novigation: Novate: 30518
COMPILATION FLIGHT PATH:
GP5 data recorded during the flight has been differentially corrected and transformed to correspond to the
NAD-27 UTM poptionate system Spherold: CLARKE 1855 pm6378206.4000 b=6355583.8000 Projection: Universal Transverse Marcolor Local Datum Shift: Ax Ay Ax = 7152, -188 Central Meridian 117W
Line Number Direction Indicator
Plant Number Fiducial
The magnetic data has been corrected for diusnol variation and heading error by a process of base station subtraction and control line levelling.
The contour intervals are: 1, 5, 25, 100 nT
RIDGEWAY PETROLEUM CORP.
Peace River, Alberta
Total Field Magnetics
Target 01
DATE DOUPSED Mor Apr. 97 DATE FLOWN Feb Mor. 97
High-Sense Toronto, Coneda MBK 1Y3



system Magnetometer: Scintrex H=8 design Radar Atimeter: Terra 3500 GPS Novightion: Novatel 3951R COMPLATION FLIGHT PATH: CPS datg recorded during the flight has been differentially corrected and transformed to correspond to the NAD=27 GTM coordinate system Spheroid: CLARKE 1866 a=6378206.4000 b=6356553 800 Projection: Universal Transverse Mercator Local Datum Shift: Ax ay ax = 7, r162, =198 Central Meridian 117-W Manual Direction Indicator 9020 2 Flight Number Placetor			
SURVEY SPECFICADONS     He ⁿ copter altitude:   40 m M.F.C.     Wag sprear bird altitude:   20 m M.F.C.     Innverse fine spacing and direction:   50 m N.S.     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sense Winlikes System with a GEOS II flight control system     Magnetometer:   Scintrex H=8 cesium     Radar Atimeter:   Terra 3500     GPS Nevigation:   Novatel 3951R     COMPLATION     FLIGHT PATH:     COMPLATION     Spheroid:   CLARKE 866 a=4378206.4000 a=6358553.800     Projection:   Universal Transverse Mercator     Local Datum Shift:   ax ey ex = 7, r162, m138     Central Meridian   1174     MagNetICS:   The magnetic data has been corrected for duringl variatior a			
SURVEY SPECFICADONS     Helicopter altitude:   40 m M.F.C.     Wag soneor bird altitude:   20 m M.F.C.     Innoverse fine spacing and direction:   500 m NS     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sande WeilNag System with a GEOS II flight control     system     Magnetometer:   Scintrex H=8 cesium     Rodar Attimeter:   Terra 3500     GPS Nevightion:   Novatel 3951R     COMPLATION     FLIGHT PATH:     COMPLATION     Spheroid:   CLARKE 1866 a=4378206.4000 a=6358553.800     Projection:   Universal Transverse Mercator     Local Datum Shift:   ex ey ex = 7, m62, m138     Central Merition   1174     Ine Mumber   Direction indicator     9000 2   Entert in dis:   12 m;			
SURVEY SPECFICADONS     He®copter altitude:   40 m M.F.C.     Wag sprear bird altitude:   20 m M.F.C.     Innverse fine spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sense Wollwag System with a CFCS II flight control system     Magnetometer:   Scintrex H=8 cesium     Radar Atimeter:   Terra 3500     GPS Nevigation:   Novatel 3951R     COMPLATION   FLIGHT PATH:     COMPLATION   FLIGHT Number     Spheroid:   CLARKE 1866 a=6378206.4000 p=6358553.800     Projection:   Universal Transverse Mercator     Local Datum Shift:   ex ey ex = 7, r162, m188     Central Merition   117m     MAGNETICS:   The magnetic data has been corrected for duringlivariatio and heading error by a process of base station subtractio and heading error by a process of base station subtractio and heading e			
SURVEY SPECFICADONS     He®copter alt3ude:   40 m M.F.C.     Wag sprear bird alt1ude:   20 m M.F.C.     Inteverse the spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sense Wolklog System with a CFCS II flight control system     Magnetometer:   Scintrex H=8 cesium     Rador Atimater:   Terra 3500     GPS Nevigation:   Novatel 3951R     COMPLATION   FLIGHT PATH:     COMPLATION   FLIGHT PATH: <t< td=""><td></td><td></td><td></td></t<>			
SURVEY SPECFICADONS     He®copter alt3ude:   40 m M.F.C.     Wag sprear bird alt1ude:   20 m M.F.C.     Inteverse the spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sense Wolklog System with a CFCS II flight control system     Magnetometer:   Scintrex H=8 cesium     Rador Atimater:   Terra 3500     GPS Nevigation:   Novatel 3951R     COMPLATION   FLIGHT PATH:     COMPLATION   FLIGHT PATH: <t< td=""><td></td><td></td><td></td></t<>			
SURVEY SPECFICADONS     He ⁿ copter altitude:   40 m M.F.C.     Wag sprear bird altitude:   20 m M.F.C.     Innverse fine spacing and direction:   50 m N.S.     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sense Winlikes System with a GEOS II flight control system     Magnetometer:   Scintrex H=8 cesium     Radar Atimeter:   Terra 3500     GPS Nevigation:   Novatel 3951R     COMPLATION     FLIGHT PATH:     COMPLATION     Spheroid:   CLARKE 866 a=4378206.4000 a=6358553.800     Projection:   Universal Transverse Mercator     Local Datum Shift:   ax ey ex = 7, r162, m138     Central Meridian   1174     MagNetICS:   The magnetic data has been corrected for duringl variatior a			
SURVEY SPECFICADONS     He*copter alt3ude:     You with the specing and direction; 50 m NS     EOUIPMENT     Name of the specing and direction; 50 m NS     EOUIPMENT     High-Sense Winlikes System     Magnetometer:     Scintrax H=8 cesium     Reder Atimeter:     Threa 3500     GOMPILATION     Reder Atimeter:     Terra 3500     GOMPILATION     Reder Atimeter:     Terra 3500     GOMPILATION     FLIGHT PATH:     COMPILATION     FLIGHT PATH:     COMPILATION  FLIGHT PATH:	1041	1-14.0 <b>48</b>	
He ⁿ copter altitude: 20 m M.T.C. Mag some bind altitude: 20 m M.T.C. Treverse line spacing and direction: 50 m NS Control line spacing and direction: 500 m EW EOUIPMENT High-Songe Winling System with a GECS II flight control system Magnetometer: Scintrex H-B desium Rador Attimeter: Terra 3500 GPS Novightion: Novatel 3951R COMPLATION FLIGHT PATH: COMPLATION FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: COMPLATION FLIGHT PATH: COMPLATION FLIGHT PATH: COMPLATION FLIGHT PATH: COMPLATION FLIGHT PATH: COMPLATION FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH: FLIGHT PATH		64 940 	
Mag some r bird altitude:   20 m M.I.G.     Incoverse line spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     EOUIPMENT     High-Sande Winlikag System with a CFCS II flight control system     Magnetometer:   Spintrex H-B cesium     Radar Atimeter:   Terra 3500     GPS Novigation:   Novatel 3951R     COMPLATION     FLIGHT PATH:     COMPLATION     FUGHT PATH:     COMPLATION     Spheroid:     CLARKE 1866 a=A378206.4000 p=635653.800     Projection:     Universal Transverse Mercator     Local Datum Shift:     As ey ex = 7, 162, m186     Central Merition     MAGNETICS:     The magnetic data has been corrected for during variatio an		FICADONS	
Eoutrol line spacing and direction: 500 m EW EOUIPWENT High-Sense WiniWag System with a CEOS II flight control system Magnetometer: Scintrex H-B desium Radar Atimater: Terra 3500 GPS Novigation: Novatel 3951R COMPLATION FUGHT PATH: COMPLATION FUGHT PATH: FUGHT PATH:	Mag spreer bird altitude:	40 h 20 n ction: 50 f	n W.I.C. n VII.C. n NS
High-Sanae Weilwag System with a GECS II flight control system Magnetometer: Spintrex H-8 design Radar Atimeter: Terra 3500 GPS Novightion: Novatel 3951R COMPLATION FLIGHT PATH: COMPLATION FLIGHT PATH: FLIGHT PATH:	Control line specing and direct	Gona 50D	
system Magnetometer: Spintrex H-B besiden Radar Atimeter: Terra 3500 GPS Novigation: Novatel 3951R COMPLATION FLIGHT PATH: CPS data recorded during the fight has been differentially corrected and transformed to correspond to the NAD-27 WM coordinate system Spheroid: CLARKE 1866 a=A378206.4000 b=6358553.800 Projection: Universal Transverse Mercator Local Datum Shift: Ax ey ex = 7, 162, m188 Central Meritian 11770 MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and heading error by a process of base station subtraction and heading error by a process of base station subtraction and heading error by a process of base station subtraction The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.			
Rodar Atimeter:   Terra 3500     GPS Nevigation:   vovatel 39518     COMPLATION     FLIGHT PATH:     CPS data recorded during the flight has been differentially corrected and transformed to correspond to the NAD-27 GTM coordinate system     Spheroid:   CLARKE 1866 a=6378206.4000 p=6356563.800     Projection:   Universal Transverse Mercator     Local Datum Shift:   ex ey ex = 7, r162, m198     Central Meridian   117-W     Ine Number   Direction indicator     9020 2   Flight Number     Flight Number   Floget Station subtraction and heading error by a process of base station subtraction and control line levelling.     The grid interval is:   10 m     The contour intervals are:   1, 5, 25, 100 nT     RIDGEWAY PETROLEUM CORP.   RIDGEWAY PETROLEUM CORP.	system	n 6 GECS	i flight sontrol
COMPLATION FLIGHT PATH: CPS data recorded during the flight has been differentially corrected and transformed to correspond to the NAD-27 WTM coordinate system Spheroid: CLARKE 1866 a=A378206.4000 b=6356553.800 Projection: Local Octurn Shift: Ax by Ax = 7, -162, -198 Central Meridian Interval Shift: Ax by Ax = 7, -162, -198 Central Meridian Interval Meridian MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and heading error by a process of base station subtraction and control line levelling. The grid interval is: Interval are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.	Rodar Atimeter: Terra 3	3500	ium.
FUGHT PATH: GPS data recorded during the flight has been differentially corrected and transformed to correspond to the NAD-27 tFM coordinate system Spheroid: CLARKE 1866 a=A378206.4000 b=6356553.800 Projection: Universal Transverse Mercator Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Local Datum Shift: Ax ey ex = 7, r162, m198 Central Meritian 1177 Right Number RIDGEWAY PETROLEUM CORP.	GPS Novigation: Novate	1 3951R	
corrected and transformed to correspond to the NAD-27 GM coordinate system Spheroid: CLARKE 1866 a=6378206.4000 p=6358553 800 Projection: Universal Transverse Mercator Local Datum Shift: Ax ey ex = 7, r162, m188 Central Meritian 1177 The Number Direction notator 9020 2 Flight Number Protected for dhurnal variation and heading error by a process of base station subtraction and heading error by a process of base station subtraction and heading error by a process of base station subtraction and control line levelling. The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.		ATION	
Spheroid: CLARKE 1866 a=A378206.4000 p=6356583.800 Projection: Universal Transverse Mercator Local Octurn Shift: Ax ay ax = 7, 1162, m198 Central Meritian 117-W Ine Number Direction Indicator 9020 2 Flight Number Placetor 9020 2 Flight Number Pla	corrected and transformed to a	orraspond	een differentially to the
9020 2 Flight Number MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control line levelling. The grild interval is: The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.	Projection: Universal 1 Local Datum Shift: Ax Av Ax =	1378206.400 Fransversa 7 162, -11	0 - p=6358563 8000 Mercotor \$6
Flight Number Provest MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control line levelling. The grild interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.			
The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control line levelling. The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.		Fluci	
The grid interval is: 12 m The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP.	The magnetic data has been to and heading error by a process	intected for of base st	durnal variation ation subtraction
RIDGEWAY PETROLEUM CORP.	The grid interval is:	m 5.25 \00	nŤ
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Peace River, Alberta	RIDGEWAY PETR	OLEUM	CORP.
	Peace River	, Albert	a .
Total Field Magnetics Target 02		—	tics
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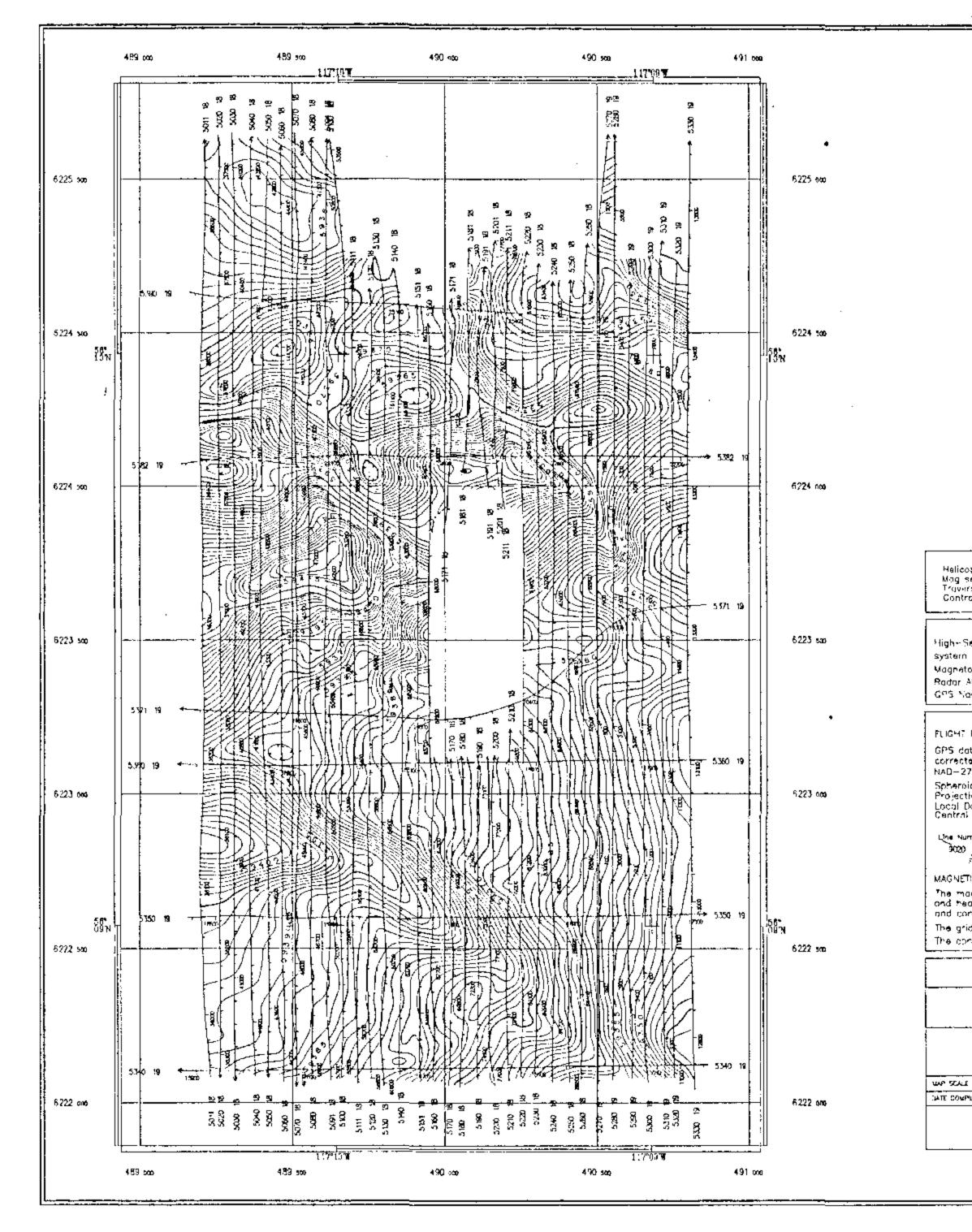
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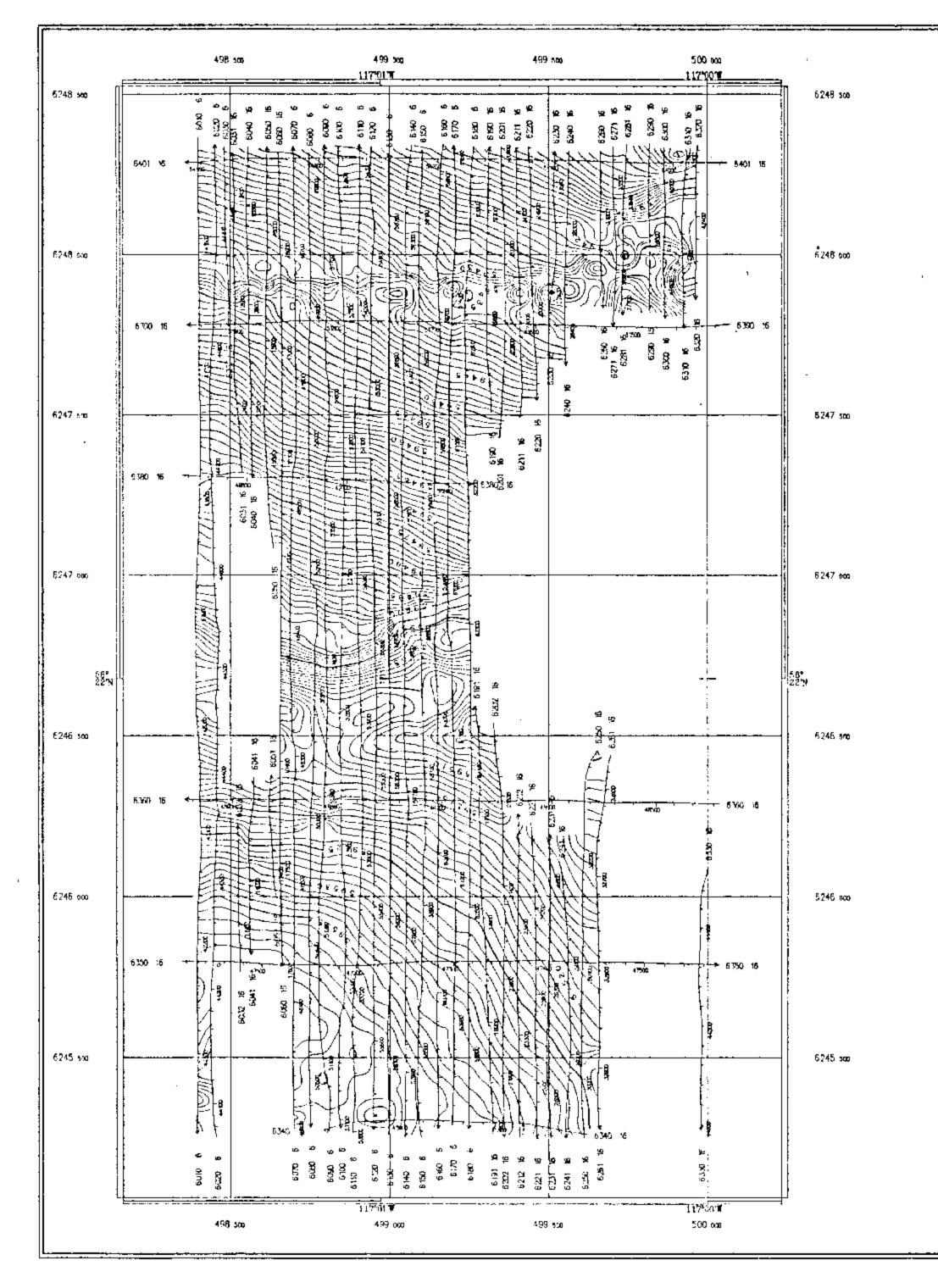
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SURVEY SPECIFICATIONS
Helicopter olditude: 40 m M.T.C. Mag sensor bird altitude: 20 m M.T.C. Traverse line spacing and direction: 50 m NS Control line spacing and direction: 500 m EW
EQUIPMENT
High-Sense MiniMag System with a GFCS 1 flight control system Magnetometer: Spintrex H-8 cenium
Rodar Altimatar: Terra 3500 GPS Navigation: Novatel 3951R
COMPLIATION FLIGHT PAYH:
GPS data recorded during the Night bas been differentially corrected and transformed to correspond to the NAD-27 UTM coordinate system
Scharold:CLARKE 1558 a+6378205.4000 $a+6356583.8000$ Projection:Universal Transverse MercatorLocal Datum Shift: $\Delta_X$ by $\Delta_K = 7, -162, -168$ Central Merid on11774
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9000 2 Tight Humber Totaciol
The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control line feveling.
The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT
RIDGEWAY PETROLEUM CORP.
Peace River, Alberta
Total Field Magnetics
Torget 04
DATE COMPLED Mor. Apr. 97 DATE NOWN Fab Mor. 97
High-Sense Taronto, Canada



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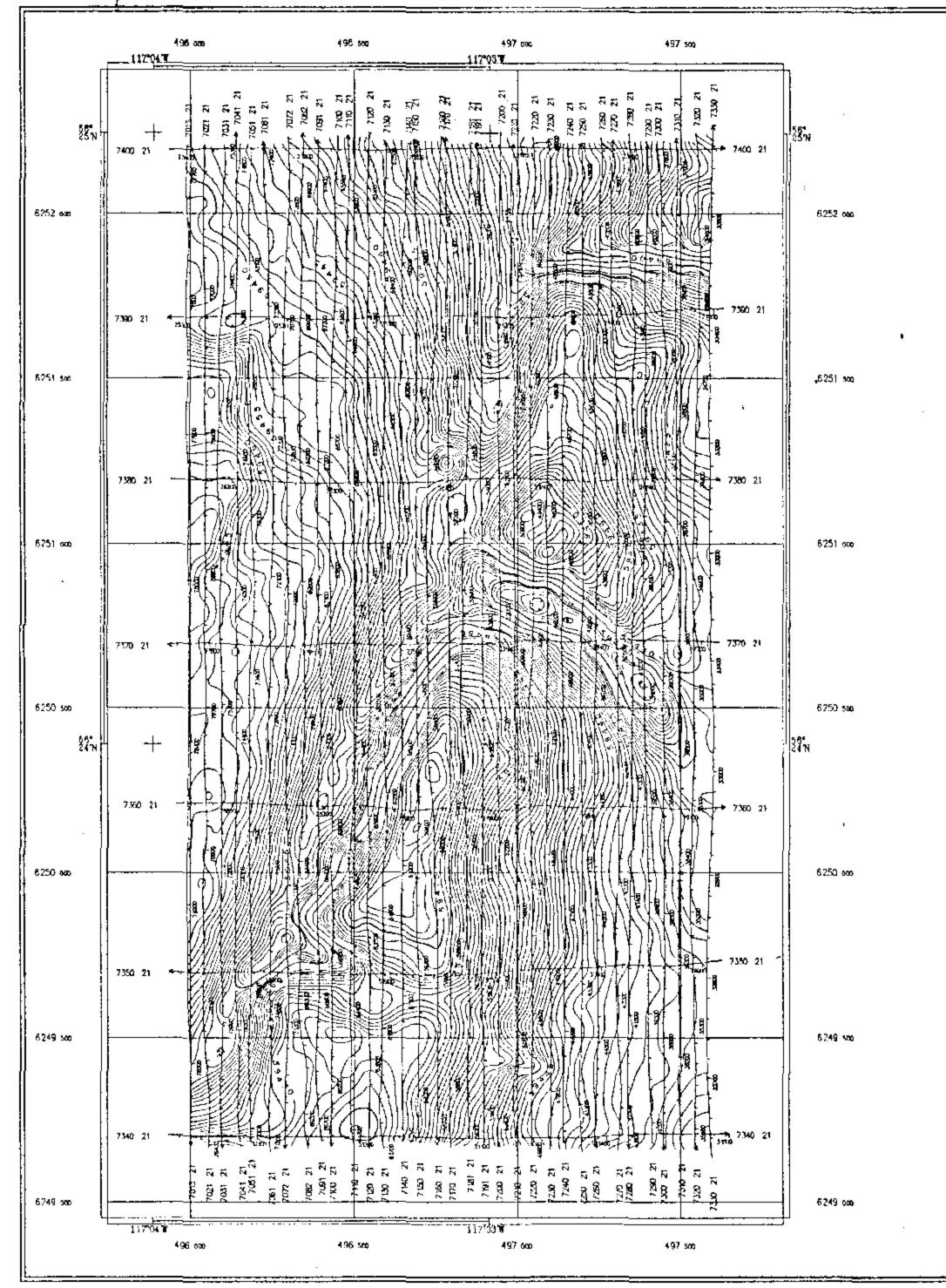
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SURVEY SPECIFICATIONS
Helicopter altitude: 40 m M.T.C. Mag sensor bird altitude: 20 m M.T.C. Toward bird altitude: 50 m MS
Traverse line spacing and direction: 50 m NS Control line spacing and direction: 500 m FW
EQUIPMENT
High+Sense MiniMag System with a GEOS & flight control system
Magnetometer: Scintrex H-8 ceelum Radar Attimeter: Terra 3500
GPS Novigation: Novatel 3351R
COMPILIATION FLIGHT PATH:
GPS data recorded during the flight has been differentially corrected and transformed to correspond to the
NAD-27 UTV coordinate system Spheroid: CLARKE 1855 a=6378206 4000 - 5+6354583.8000
Projection: Universa: Transverse Mercotor Local Datum Shift: xx Ay Ax = 7, -182, -188
Line Number _ Direction Indicator
9020 2 Filight Number Educial
MAGNETICS:
The magnetic data has been corrected for diurnal variation and heading error by a process of case station subtraction and control line leveling.
The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT
RIDGEWAY PETROLEUM CORP.
Peace River, Alberta
Total Field Magnetics
Target 05
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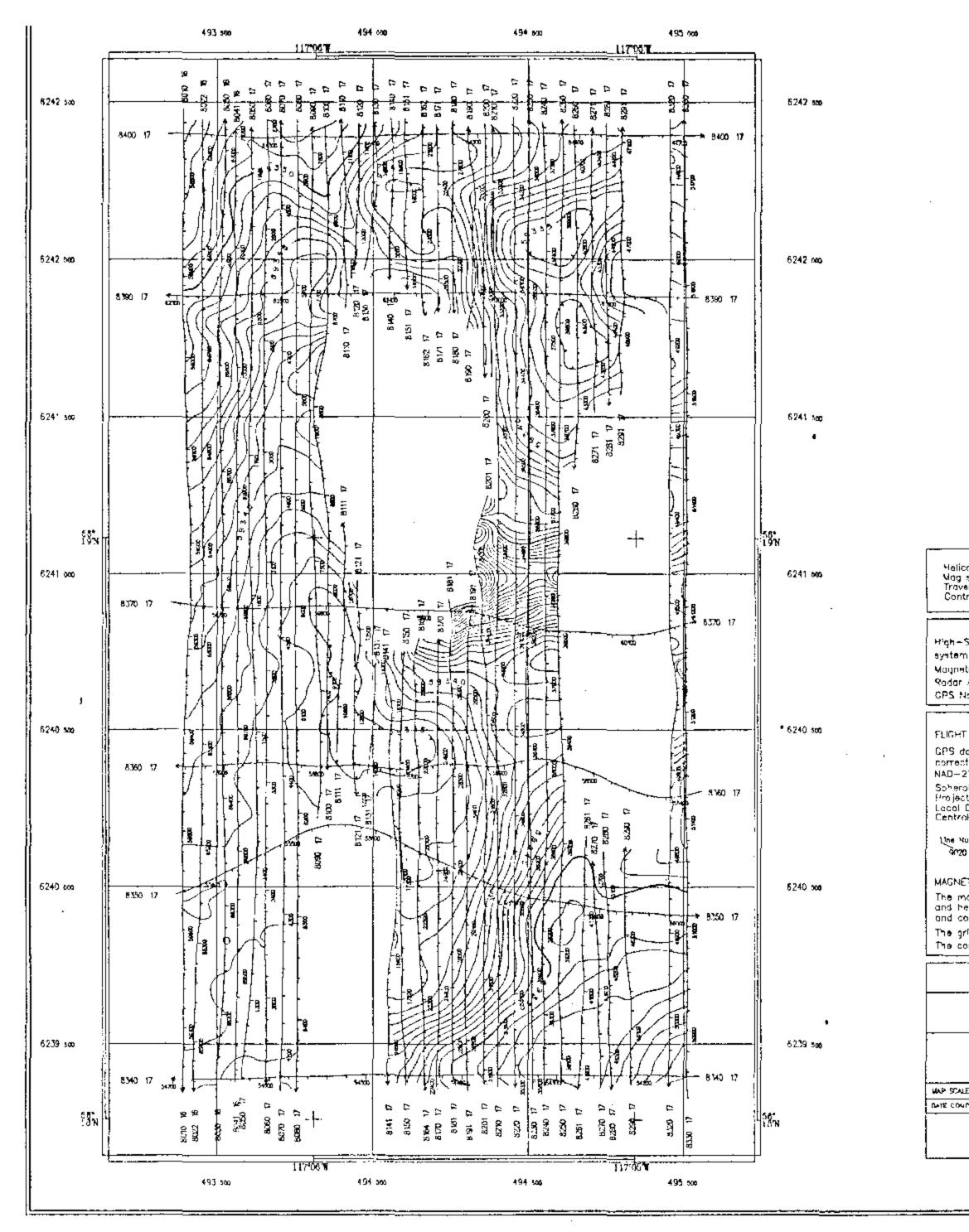
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1
BCall L/-6.30d LDB 8 (32 Mag 556
SURVEY SPECIFICATIONS Helicopter pitturfe: 40 m Mitt.C, Mog sensor pira cititude: 20 m Mitt.C, Traverse She spacing and direction: 50 m NS Control line spacing and direction: 500 m EW
EQUIPMENT High-Sense MiniMag System with a CECS in flight control
system Magnetometer: Scintrex8 desium Rodar Altimeter: Terra 3500 GPS Navigation: Novatel 30518
COMPILATION FLIGHT PATH:
GPS data recorded during the flight has been differentially corrected and transformed to correspond to the VAD-27 UTM operatode system Spheroid: CLARKE 1866 a=6128205 4000 E=6356583.6000 Projection: Universal Transverse Mercator
Local Octum Shift; Ax Ay Ax = 7, -162, -198 Centrol Meridian 112**
Line Number Direction Indicator 9020_2 Filight Number Tauciol
MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control line evaluing.
The grid intervoi is: 10 m The contour intervois pre: 1, 5, 25, 100 nT
RIDGEWAY PETROLEUM CORP.
Peace River, Alberta
Total Field Magnetics Target 06
AP STALE 3:13,000 . PROJECT MET # 370220-4 ATE COMPILED, MorAbr. 97 : TATE R OWN F95Mor. 97
High-Sansa 47 Jot Aren Ave. Toronto, Canada MBK 113
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Herico Mag e Trove Contr

Adgretometer: Somtrax H-B cesium Radar Altimeter: Tema 3500 SPS Navigation: Novatel 3951R COMPILATION LIGHT PATH: SPS data recorded during the flight has been differentially corrected and transformed to correspond to the AD-27 UTM coordinate system Spheroid: CLARKE 1866 a=6379206 4000 b=63555533 8000 Projection: Universal Transversa Meractor ocal Datum Shift: ex ey ex = 7, -162, -153 Central Meridiation 11776 Elductat Market Direction Information Plant Number Elductat ADDETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction ond control ine Inveiling. The contour Intervals ere: 1, 5, 25, 100 n.T. RIDGEWAY PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Target 07 Miscus 1:10,000 PROJECT PET 970220-4	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
SURVEY SPECIFICATIONS     Hericopter altitude:   40 m W.F.C.     Mag sersor bird altitude:   20 m W.F.C.     Traverse Hile spacing and direction:   50 m NS     Control line spacing and direction:   500 m EW     Regetatometer:   Southex H-B desium     Nodar Atimeter:   Southex H-B desium     Nodar Atimeter:   Tara 35:0     SPS Navightion:   Novatel 3951R     COMPILATION   LIGHT PATH:     SPS data recorded during the flight has been differentially intracted and transformed to corresped to the MO-27 UN coordinate system     Spherold:   CLARKE 1555 a=9379206 4000 b=5359538 B000     Tradewider:   Universal Transversa Meractor acid data Marcetor     MOD 21   Collection adiama     MADNETICS:   Plant Aumeter     Plant Number   Direction adiama     Magn Ericht   State acid for diamal variation and heading error by a process of base station subtraction acid control ine involling.     Na ontaur intervals creit   10 m.T.     RIDGEWAY PETROLEUM CORP.   Peace River, Alber	
Image   Image   Image   Image     SURVEY SPECFICATIONS     Helicopter altitude:   20 m H.T.C.     Traverse line spacing and dreation:   500 m HS     Control line spacing and dreation:   500 m EW     Igh-Sense MiniMag System with a OFOS II Night control system     Adgretometer:   Southers H-B desium     Regretometer:   Southers H-B desium     State recorded during the flight has been differentially done of the the Happer Happ	
Image   Image   Image   Image     SURVEY SPECFICATIONS     Helicopter altitude:   20 m H.T.C.     Traverse line spacing and dreation:   500 m HS     Control line spacing and dreation:   500 m EW     Igh-Sense MiniMag System with a OFOS II Night control system     Adgretometer:   Southers H-B desium     Regretometer:   Southers H-B desium     State recorded during the flight has been differentially done of the the Happer Happ	
Image   Image   Image   Image     SURVEY SPECFICATIONS     Helicopter altitude:   20 m H.T.C.     Traverse line spacing and dreation:   500 m HS     Control line spacing and dreation:   500 m EW     Igh-Sense MiniMag System with a OFOS II Night control system     Adgretometer:   Southers H-B desium     Regretometer:   Southers H-B desium     State recorded during the flight has been differentially done of the the Happer Happ	
Image   No   No     SURVEY SPECIFICATIONS     Helicopter altitude:   40 m M.T.C.     Mag sersor bird altitude:   20 m M.T.C.     Traverse line spacing and drection:   500 m LW     EQUIPUENT   ScoulPuENT     tigh-Sense MiniMag System with a OFOS II flight control system   ScoulPuENT     tagnetometer:   Scoutrat H-B cesium     kagnetometer:   Scoutrat H-B cesium     hagnetometer:   Scoutrat H-B cesium     scoutrat data has been differentially   Scoutrat H-B cesition automation     Motod centrol ine involling.   Educiat <	
Helicopter attituds: Mag sensor bird olitude: 29 m W.I.C. 20 m W.I.	
Helicopter attituds: Mag sensor bird olitude: 29 m W.I.C. 20 m W.I.	SURVEY SPECIFICATIONS
Control line spacing and direction:   500 m EW     EQUIPUENT     tigh-Sense Minikkag System with a GFCS II flight control system     Acquatometer:   Sountrax H-8 desium     Acquatometer:   Terra 3500     SPS Navigation:   Novatel 3951R     COMPILATION     COMPILATION </td <td>Helicopter altitude: 40 m M.T.C. Mag sensor pird glitude: 20 m M.T.C.</td>	Helicopter altitude: 40 m M.T.C. Mag sensor pird glitude: 20 m M.T.C.
High-Sense Minikkog System with a GEGS II flight control     Visteria     Kagnetometer:   Sontrex H-B cesium     Radar Altimeter:   Terra 35:0     SPS Navlgation:   Novatel 3951R     COMPILATION     Contract during the flight has been differentially bord control shift: ax ey ax = 7, -162, -163     Contract on dual has been corrected for disured variation ind heading error by a process of base	Traverse the specing and direction: DU m NS Control line specing and direction: 500 m EW
Adge Alomater: Sountrex H-B besium Tarra 35:0 PS Novigetion: Novatel 3951R COMPILATION LIGHT PATH: COMPILATION LIGHT PATH: LIGHT PATH: LIG	
Radar Altimeter: Tarra 3500 SPS Navigation: Novatel 3951R COMPILATION LIGHT PATH: SPS data recorded during the flight has been differentially corrected and transformed to correspond to the AD-27 UTM coordinate system Spheroid: CLERKE 1585 3=6379206 4000 b=6355533 8000 rojection: Universal Transverse Meractor acal Datum Shift: ex ey ex = 7, -102, =155 Central Vericist 11777 Une Number 9020 2 Flight Number 9020 2 Flight Number 9020 2 Flight Number Placeton adicator Placeton adicator Placeton adicator Placeton adicator RIDGEWAY PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Target 07 Might-Sense 47 Jefferen Ave. Torento, Canada	system
COMPILATION LIGHT PATH: SPS data recorded during the flight has been differentially corrected and transformed to correspond to the IAD-27 UTM coordinate system Spheroid: CLARKE 1856 a=6379206 4000 b=6355553 8000 indirection: Universal Transverse Meractor acal Dolum Shift: ax ey ax = 7, -102, -193 Central Meridian Inter Direction Interv 9020 2 Flight Number Play a process of base station subtraction and heading error by a process of base station subtraction and control ine Invelling. The magnetic data has been corrected for diurnal variation and control ine Invelling. The grid interval is: ID m The contour intervals ere: 1, 5, 25, 100 n.T RIDGEWAY PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Target 07 Mercus 1:10,000 PROJECT PER 970220-4 TE COMPLED NorApr. 97 INTERDIM Field-Mar. Figh-Sense 47 Jefferson Ave. Toronto, Canada	Radar Altimeter: Tarra 3500
LIGHT PATH: SPS data recorded during the flight has been differentially corrected and transformed to correspond to the IAD-27 UTM coordinate system Spheroid: CLARKE 1856 a=6379206 4000 b=63555533 8000 rejection: Universal Transverse Merodor ocal Datum Shift: Ax 4y Ax = 7, -162, -153 Sentral Meridian 11779 Line Number Direction adjance 900 2 Flight Number Direction adjance 910 2 Flight Scale 10 m Flocket PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Target 07 Mescal 1:10,000 PROJECT PET 970220-4 Flight-Sense 47 Jefferson Ave. Toronto, Canada	
intervals and transformed to correspond to the IAD-27 UTM coordinate system Spherold: CLARKE tate a=6379206 4000 b=6355553 8000 Projection: Universal Transverse Meractor ocal Datum Shift: Ax by Ax = 7, +102, -193 Sentral Meridian 11774 Filent Number Officien ndicator 9020 2 Filent Number Fiducial Magnetics The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control ine Inveiling. The contour intervals ere: 1, 5, 25, 100 n. RIDGEWAY PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Target 07 Merscus 1:10,000 i PROJECT PET 970220-4 TE DUMED MorApr. 97 SATE DOWN i FebMar. 97 We scale 1:10,000 i PROJECT PET 970220-4 Toronto, Canade	COMPILATION FLIGHT PATH:
Spherold: CLARKE 1856 a=6379206 4000 b=6355553 8000 trojection: Universal Transverse Merador acal Datum Shift: ax ay ax = 7, -162, -163 Sentral Verision 11779 Une Number Direction adjanter 900 2 Flight Number Educial MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control ine levelling. The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 n.T RIDGEWAY PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Target 07 Merce Apr. 97 INTERDED MorApr. 97 Migh-Sense 47 Jefferson Ave. Toronto, Canada	GPS data recorded during the flight has been differentially corrected and transformed to correspond to the
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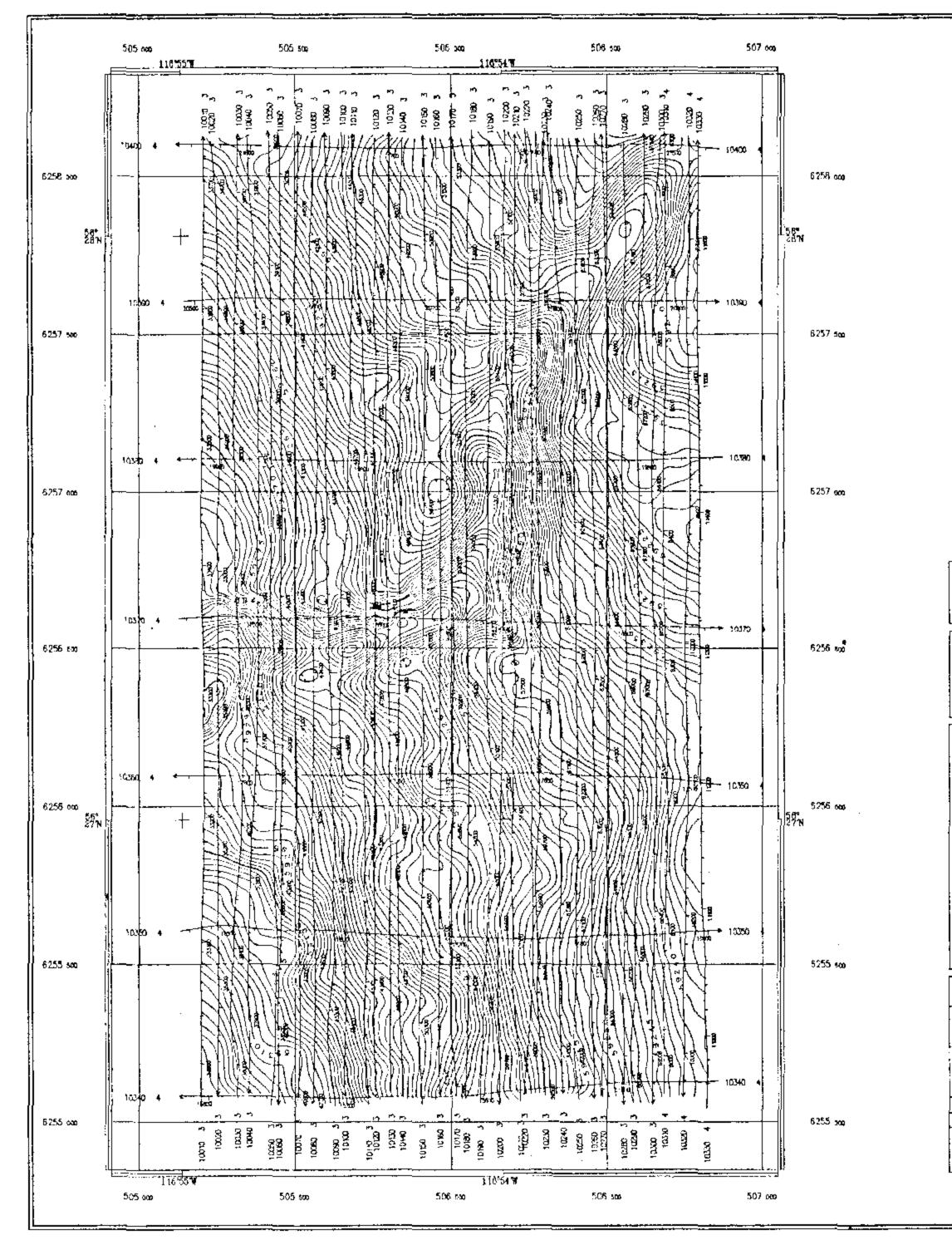
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SURVEY SPEC FICATIONS opter altitude: 40 m M.T.C. sensor aird altitude: 20 m M.T.C. area line spacing and direction: 50 m NS rol line spacing and direction: 500 m EW
EOU-PMENT
Sense MiniMag System with a GFCS II flight control
n tometer: Scintrex H+8 cesium Altimeter: Terra 3500 Isvigation: Novatel 3851R
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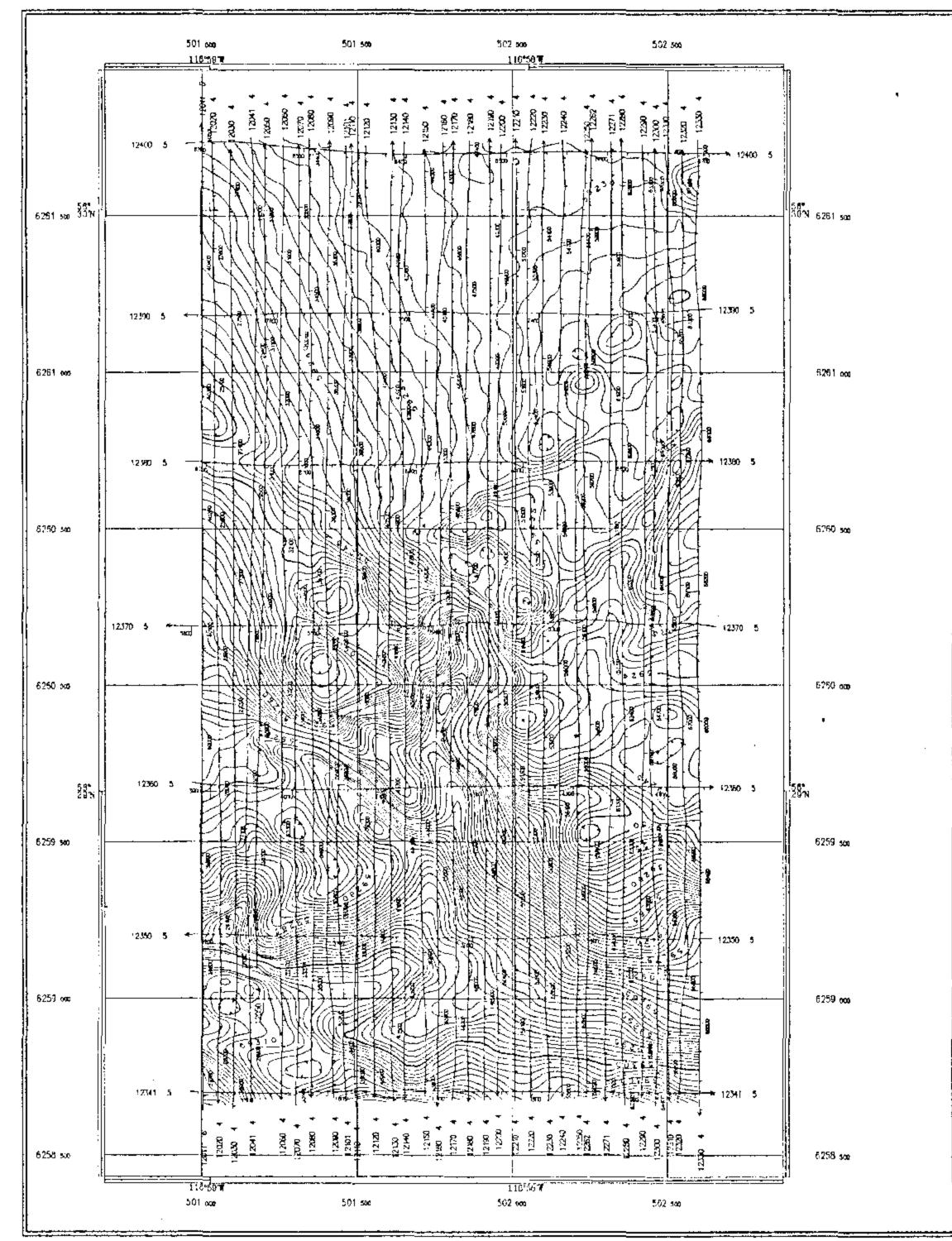
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SURVEY SPECIFICATIONS
Helicopter attitude: 40 m N.T.C. Mag sensor bird attitude: 20 m N.T.C. Traverse, ine soacing and direction: 50 m NS
Control ine spacing and direction; 500 m EW
ECUIFMENT High-Serse Miniktag System with a CFCS II flight control
system Magnetometer: Scintrex H-8 cesium
Radar Atlimeter: Tetra 3500 GPS Novigation: Novatel 3951R
FLIGHT PATH:
GPS data recorded during the flight has been differentially corrected and transformed to correspond to the NAD+27 UTM coordinate system
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Une Number Direction Indicator
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MAGNETICS: The magnetic data has been corrected for diurnal variation and heading error by a process of base station subtraction and control line leveling.
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Total Field Magnetics Target 10
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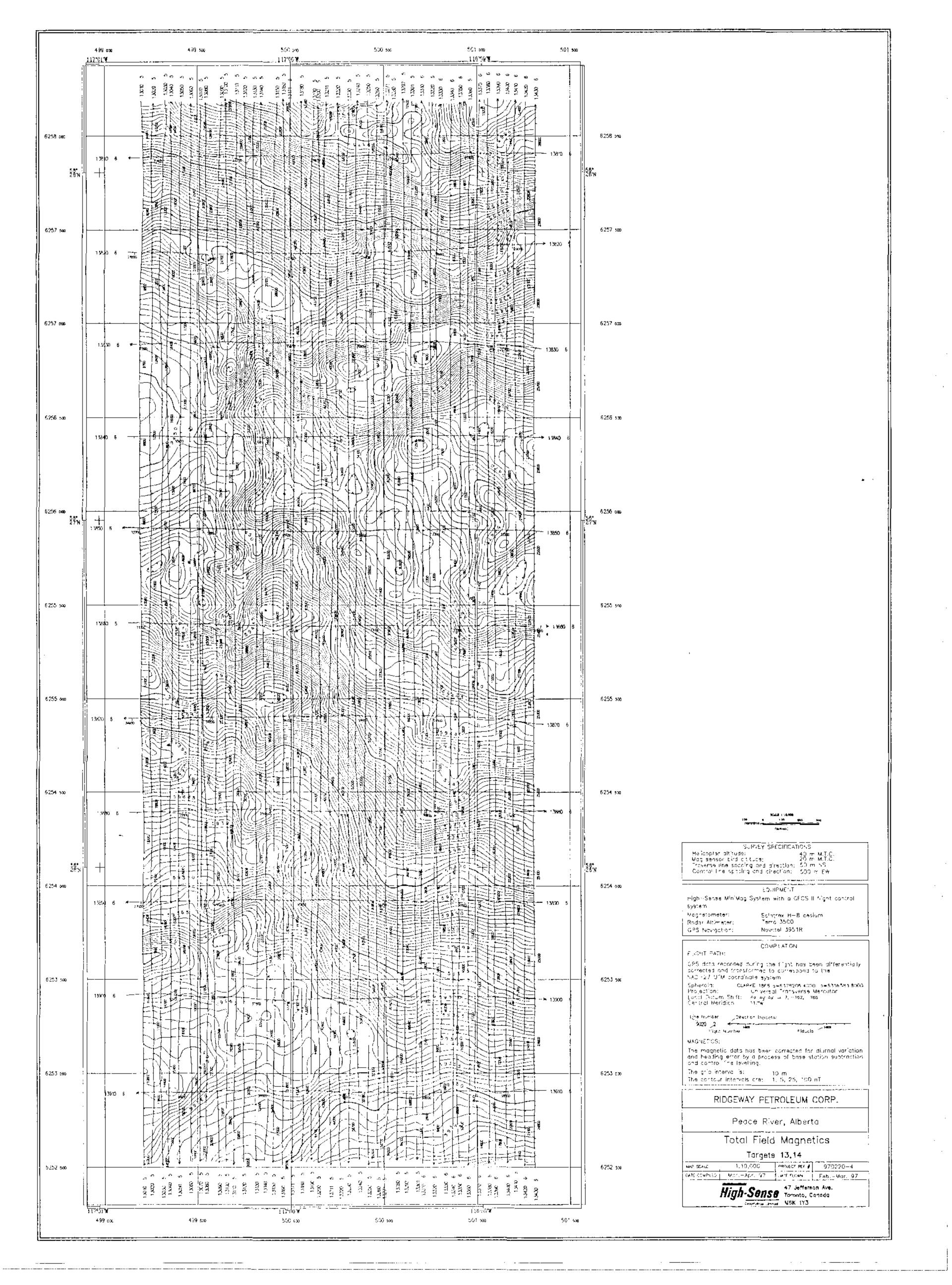
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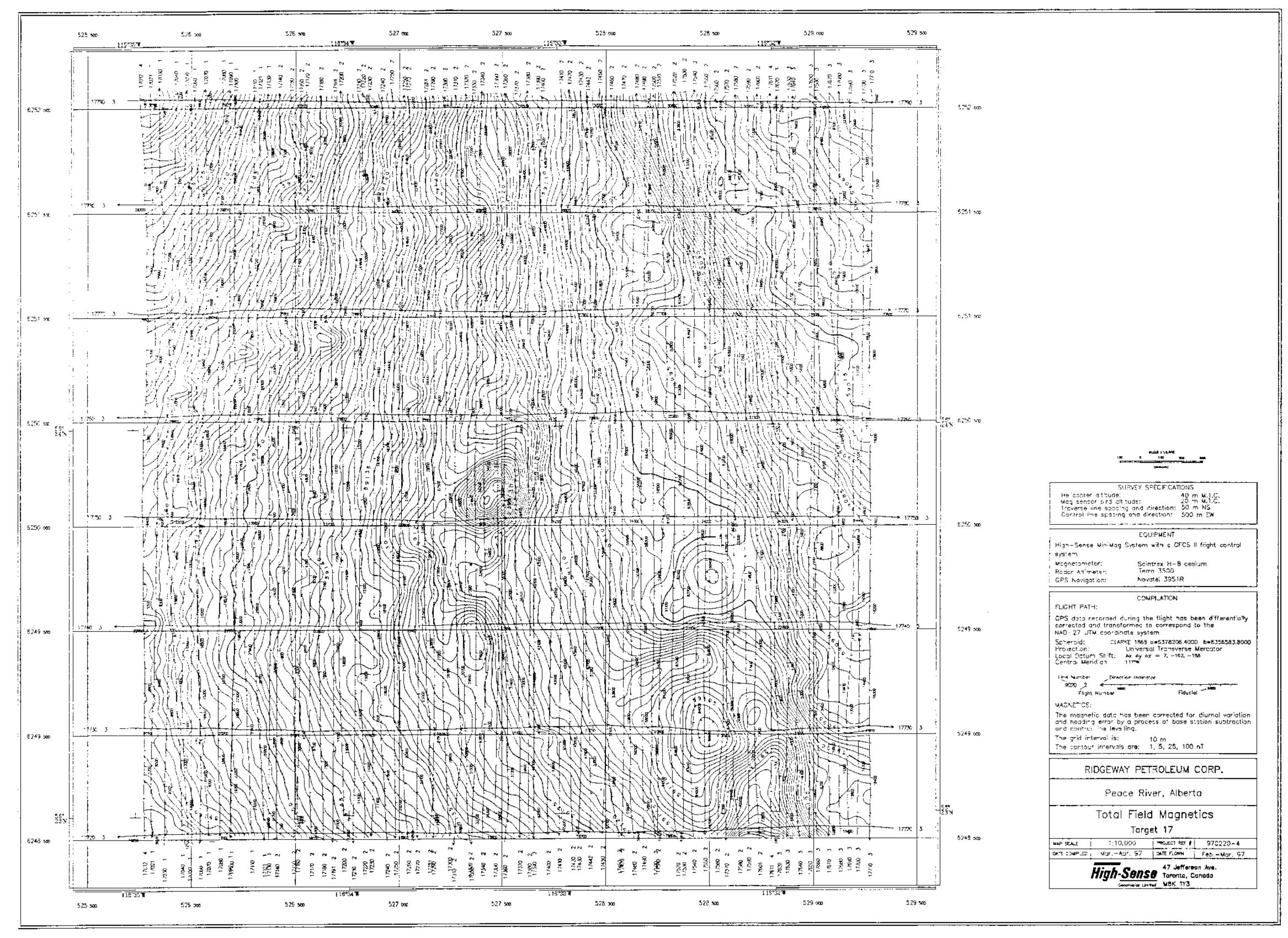
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SURVEY SPECFICATIONS Heticopter attitude: 40 m M.T.C. Mag sensor bird attitude: 20 m M.T.C. Traverse line spacing and direction: 500 m NS Crintrol line spacing and direction: 500 m 2W EQUIPMENT High-Sense MiniWag System with a GFCS II flight control system Magnetomater: Scintrex H-B desium Radar Attimeter: Terra 3500 GPS Navigation: Novatel 3951R COMPiLATioN FLIGHT PATH: OPS data recorded during the flight has been differentio! corrected and transformed to correspond to the NAD-27 UTM coordinate system	
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Radar Altimeter: Terra 3500 GPS Navigation: Novatel 3951R COMPILATION FLIGHT PATH: GPS data recorded during the Might has been differential corrected and transformed to correspond to the	
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Peace River, Alberta	
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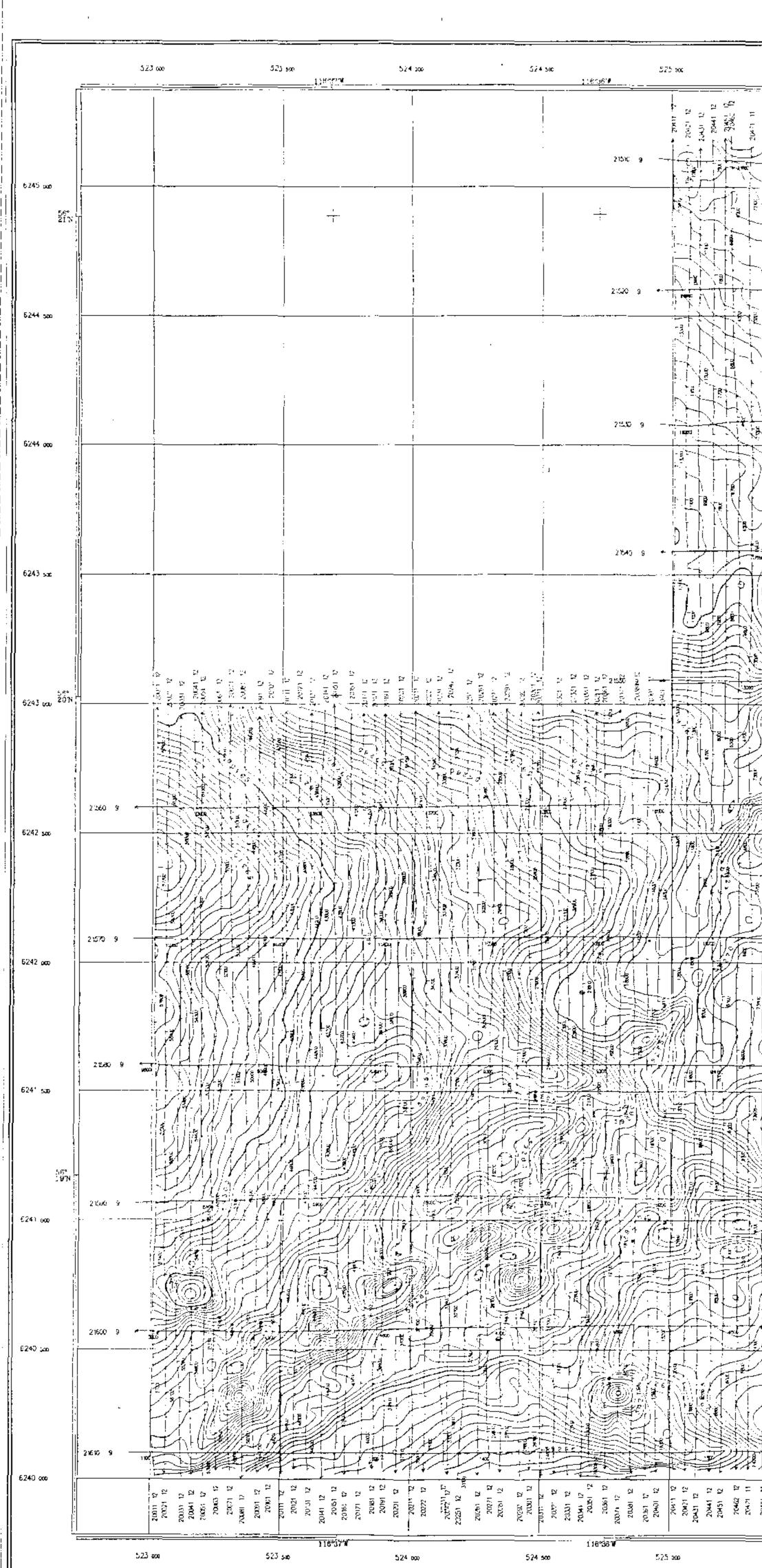
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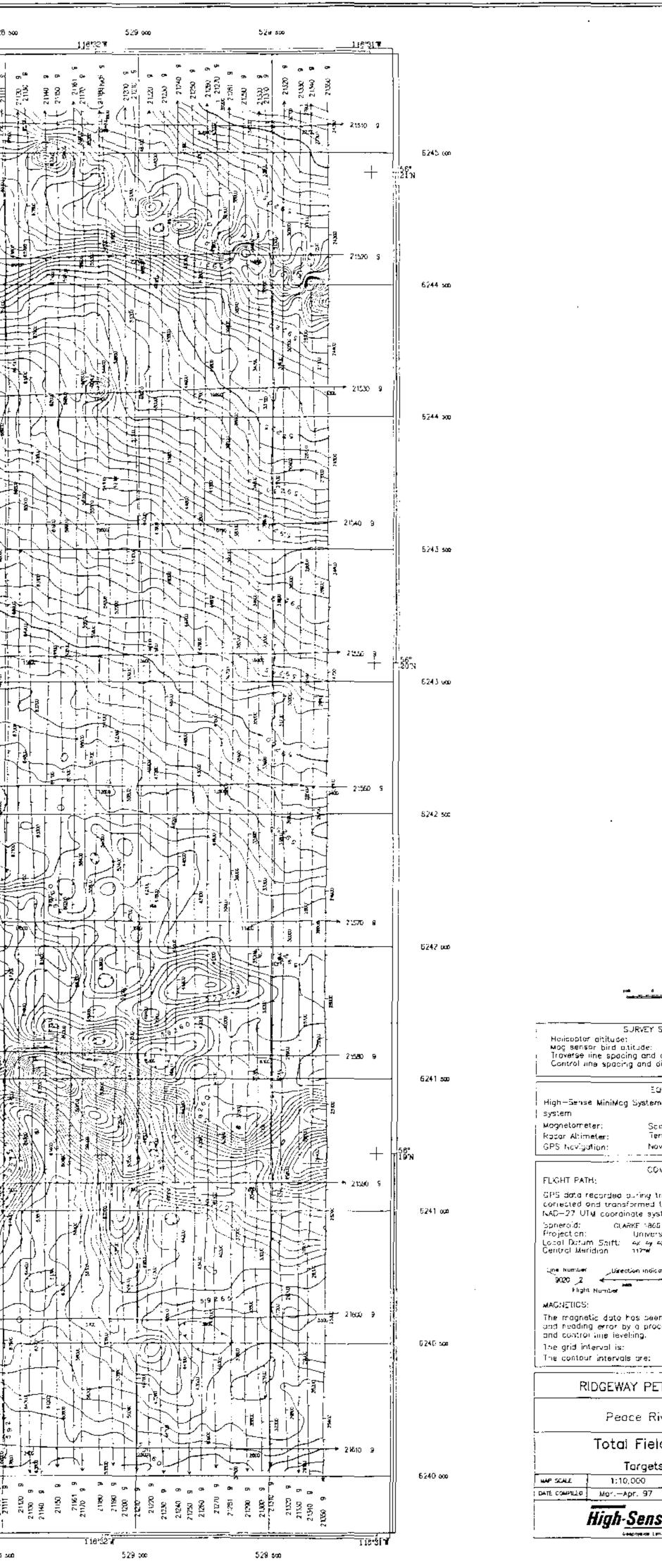
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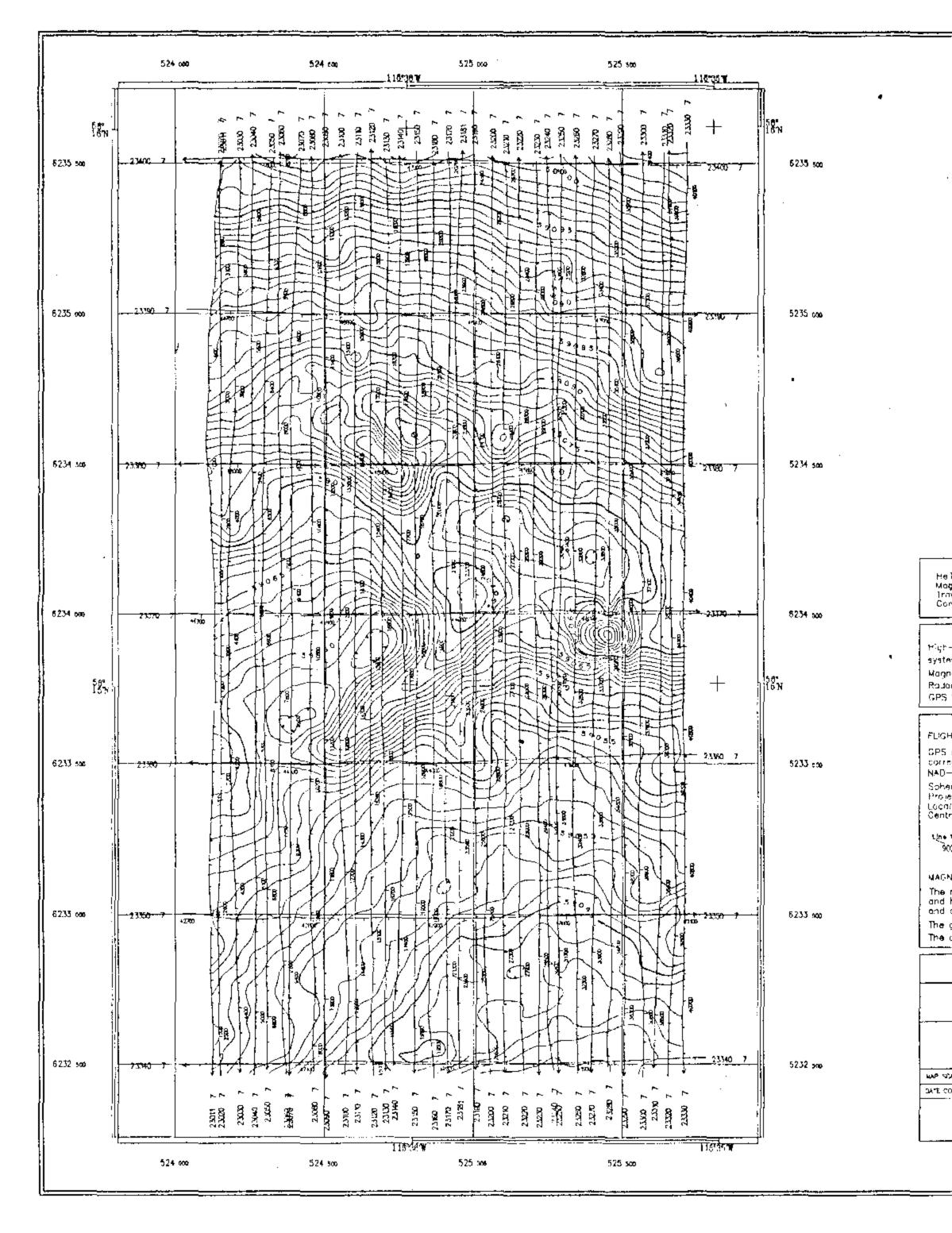


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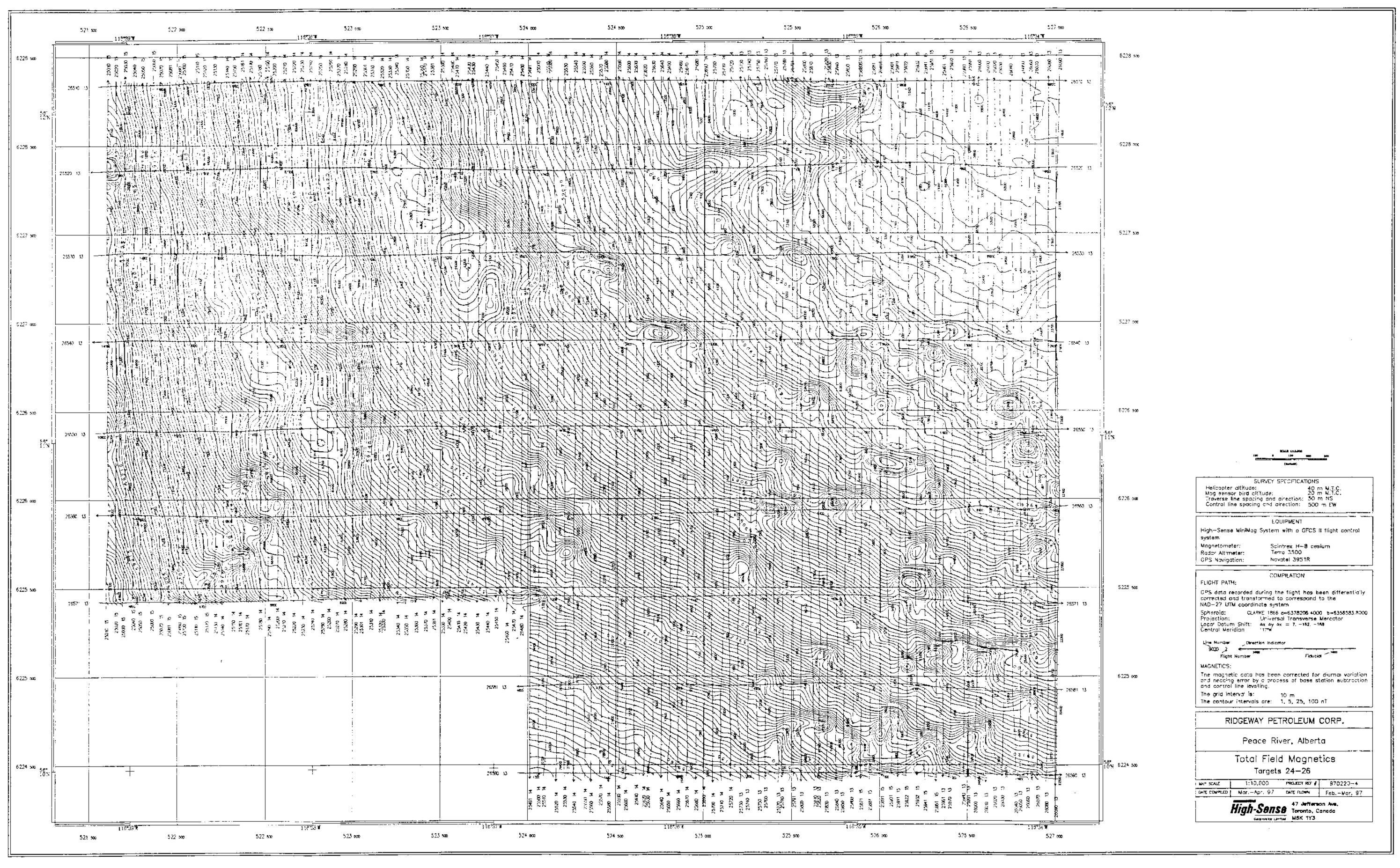
SURVEY SPECIFICATIONS 40 m M.T.C. 20 m M.T.C. Holisoptor dititude: More sensor bird atitude: 20 m M.T.C. Troverse line spacing and direction: 50 m NS Control line spacing and direction: 500 m EW ____ EQUIPMENT High-Sense MiniMag System with a GFCS If flight control system Scinitiex H-8 Gesium Terra 3500 Mognetometer: Rodar Altimeter: GPS Nevigation: Novatel 3951R ·· _ ·- _____ _____ ----COMPILATION FLIGHT PATH: GPS data recorded puring the flight has been differentially corrected and transformed to correspond to the NAD-27 UTM coordinate system Spherold: CLARKE 1865 6-6378296.4000 b=6356563.8000 Projection: Universal Transverse Merodion Local Datum Saift: 4x 4y 4x = 7, 182, 188 Central Meridian 11778 Une Number Direction indicator 9020 2 Flight Number Flight Number MAGNETICS: The magnetic data has been corrected for diurnal variation and reading error by a process of **base** station subtraction and control line leveling. The grid interval is: 10 m The contour intervals are: 1, 5, 25, 100 nT RIDGEWAY PETROLEUM CORP. Peace River, Alberta Total Field Magnetics Targets 18-22 
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copter altitude: 40 m M.T.C. sensor bird altitude: 20 m M.T.C. erse ine spacing and direction: 50 m KS tratifies spacing and airection: 500 m EW					
EQUIPMENT					
-Sense MiniMag System with a SFCS # 40gHt contro m	"				
etometer: Scintrex Hin8 cesium r Altimeter: Terra 3500					
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