

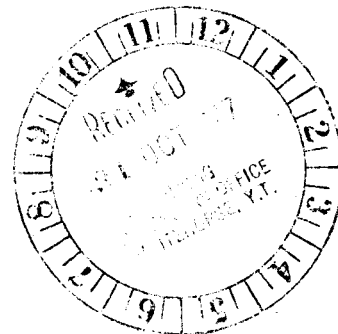
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CONSULTING
GEOPHYSICISTS

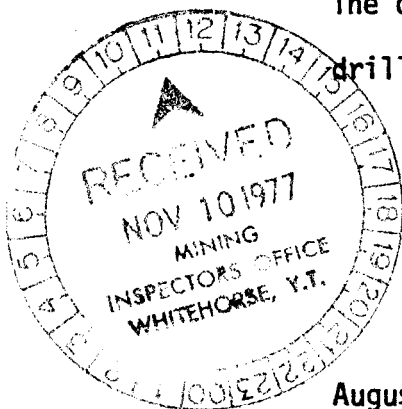
15423 34th Ave.
Surrey, B.C. Canada
V3S 4N7

TENAS PROJECT
GRAVITY SURVEY



SUMMARY

The results of the gravity survey work over the eastern and central parts of the Tenas Project area, Yukon Territory, are presented in this report. Four gravity high anomalies have been discovered which could indicate the presence of buried massive sulphide bodies. The Pelly Anomaly is, by far, the most interesting. Its correlation with massive sulphides, found in float and outcrop on the eastern flanks of the feature, indicates that it should be drilled immediately. The other anomalies require further study and work before drilling decisions can be made.

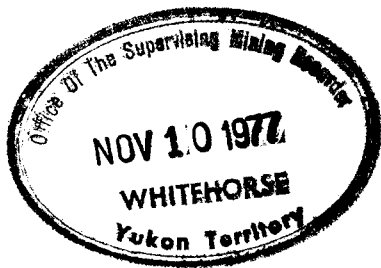


August 2, 1977

Respectfully submitted,

Charles A. Ager
Charles A. Ager, PhD, PEng.
Geophysicist

096262



This report has been examined by the Geological Evaluation Unit and is recommended to the Council of the Territory to be considered as representation work in the amount of

~~\$43,492.33~~ 50,264.00

A handwritten signature in dark ink, appearing to be "D. B. Craig".

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

MAX. Apply \$ 22,146.16 WATSON LAKE DISTRICT
MAX. Apply \$ 28,117.84 WHITEHORSE MINING DISTRICT

Supervising Mining Recorder

Per Commissioner of Yukon Territory

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LOCATION - DATE OF WORK - CREW

LOCATION: Tenas Project Area
Bar, Wop, Bell, Tenas, T Claims Area
Tenas Creek and Ross River areas, Yukon Territory
NTS 105K - 1
62°03' N Latitude, 132°15' W Longitude

DATE OF WORK

Field Work: April 8 - June 9, 1977

Office Work: June 16 - August 2, 1977

CREW

Charles A. Ager, PhD, PEng: Project geophysicist
Douglas R. MacQuarrie, BSc: Party chief/geophysicist
Paul Stevenson : Gravity observer/field assistant
Roger Warren : Gravity observer
Howard Moskaluk : Geophysical assistant
Keith Travis : Field assistant
John Risby : Field assistant
Kurt Diekman : Field assistant
Alan Watson : Gravity observer

INTRODUCTION

At the request of DuPont of Canada Exploration Ltd, approximately 101 line miles of reconnaissance gravity work was conducted over the Tenas Project area, Yukon Territory (Fig. 1 and 2). The main intent of the gravity survey was to outline zones of excess mass which could signal the presence of massive Pb-Zn ore bodies. The project area is within the well known Anvil Pb-Zn district where several massive sulphides in the range of 20-60 million tons have been discovered to date. The gravity work was concentrated on the Bar, Wop, Bell and T claims as shown on Figure 2.

INSTRUMENTATION & SURVEY PROCEDURE

Gravity observations were made using two LaCoste and Romberg Model G gravity meters (Serial Nos.G148 and G209) with reading accuracy of ± 0.01 mgal. Instrument and diurnal drift were accounted for by tying into known base stations within three hour intervals. All gravity observations were within the dial range 5100-5200 for which the instrument constants are 1.05620 and 1.06067 mgal/division respectively.

Stations were located at 60 meter intervals along flagged chain and compass grid lines established by Ager & Associate Ltd crews. Along the pre-cut and picketed base line, stations are at 50 meter intervals. Line spacing was 300-400 meters as shown on Figures 3-1 and 3-2. Pink fluorescent flagging marks each

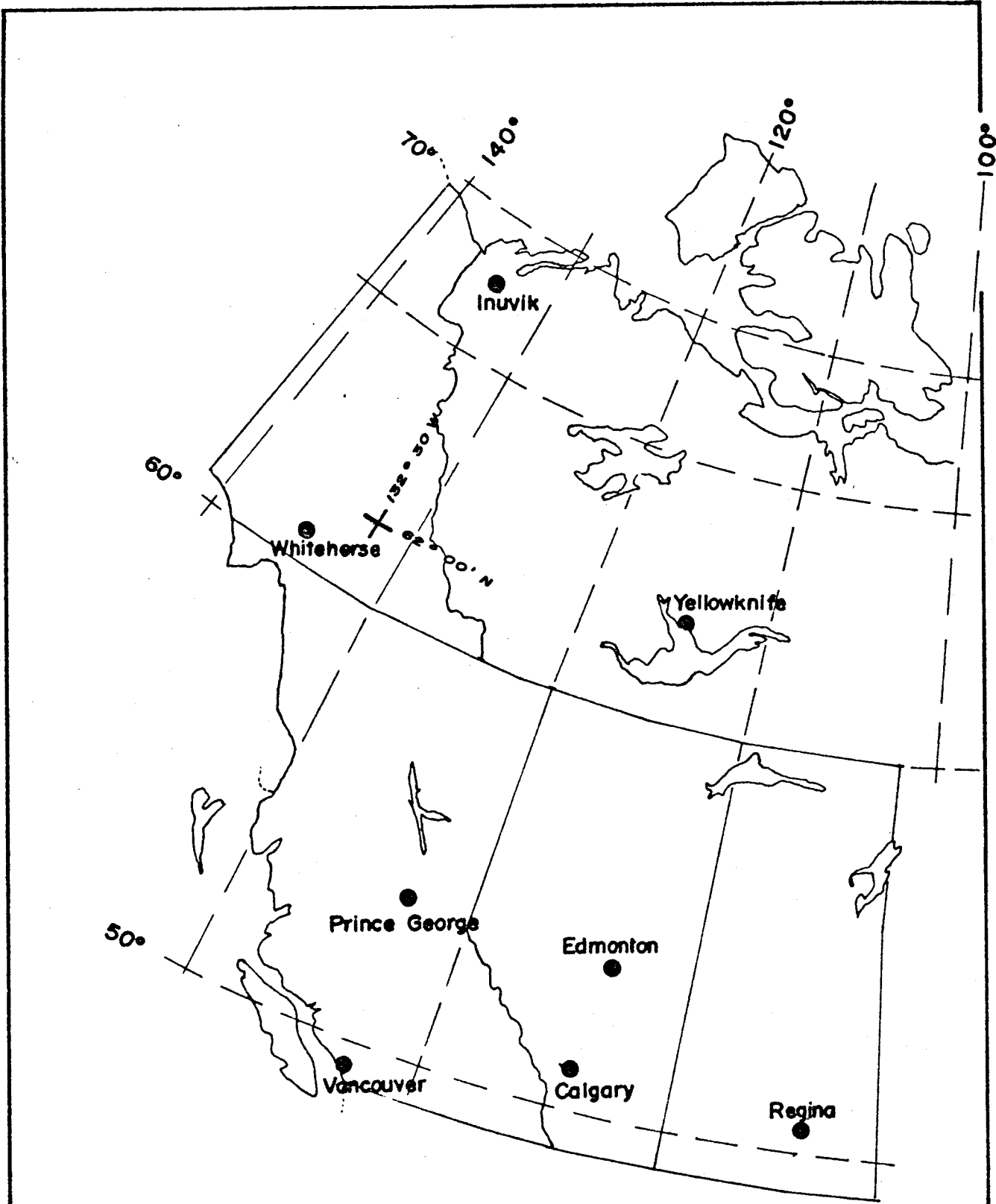


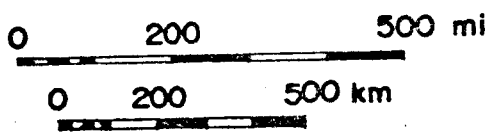
FIGURE 1

LOCATION MAP

TENAS PROJECT AREA

DATE JULY, 1977

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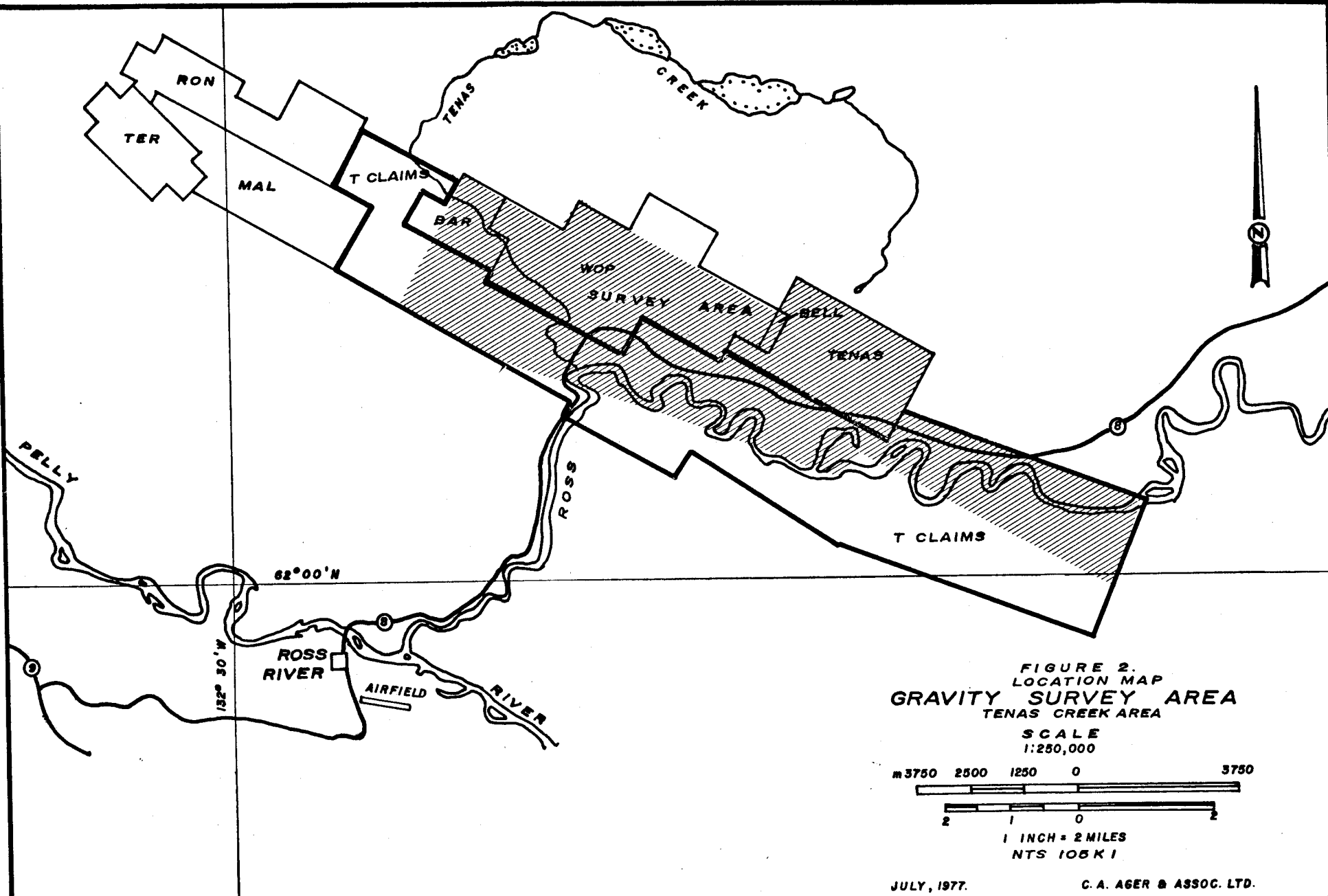


FIGURE 2.
 LOCATION MAP
GRAVITY SURVEY AREA
 TENAS CREEK AREA
 SCALE
 1:250,000
 3750 2500 1250 0 3750
 2 1 0 2
 1 INCH = 2 MILES
 NTS 105 K I

JULY, 1977.

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survey line with lime and pink marking each gravity station.

Station elevations were determined from standard levelling procedures using an electric level developed by Ager & Associates Ltd. Along the base line, elevations were taken to the top of the nail in a peg at each picket position. On cross lines, elevations were taken to the top of flagged pegs at ground level. Station elevations were determined by tying to geodetic bench marks along the North Canal road. Relative station elevations are accurate to +0.03 meters or better.

The entire gravity survey was tied to a series of 5 gravity base stations that were established on the north side of the North Canal road and in the Ross River townsite. Each base is marked by a 4"x4" red painted post on which is carved the base station number. The absolute gravity value of each base station was determined by a series of network ties to the National Network Base Station Number 9807-69 at Whitehorse, Yukon Territory. The following table summarizes the base station gravity values with further parameters given in Appendix A.

STATION	LOCATION	OBSERVED GRAVITY
GB 77-1	John Rolls' Trailer Ross River, Y.T.	981,824.18 mgal.
GB 77-2	North Canal Road Tenas Grid 8160E+1370N	981,813.84 mgal.
GB 77-3	North Canal Road Tenas Grid L10100E+1950N	981,815.77 mgal.
GB 77-4	North Canal Road Tenas Grid 1970E+40N	981,829.44 mgal.
GB Wop	North Canal and Tenas Cr. Road Intersection Tenas Grid 870W+380S	981,828.89 mgal.

DATA REDUCTION

As is well known, the observed gravity field (g_0) contains much information of non interest in exploration geophysics. Simply stated, the problem is to separate the unwanted effects of the earth (g_E) from the observed gravity map. The map of interest, the Complete Bouguer Gravity Map (Δg_{CB}) is defined as follows:

$$\Delta g_{CB} = g_0 - g_E \quad (1)$$

where

$$g_E = g_L + g_{FA} + g_{BS} + g_T \quad (2)$$

↑ Latitude effect
 ↑ Free Air effect
 ↑ Bouguer Slab effect
 ↑ Terrain effect

Using standard procedures, the Complete Bouguer Gravity Maps (Figures 4-1,4-2) were calculated by Equation 2 above. Terrain effects were calculated to a radius of 600 meters about each station using a computer technique of Ager & Associates Ltd. Bouguer slab and terrain densities were taken as 2.80 g/cc as determined from mean rock density measurements from the survey area. The complete Bouguer gravity values are all relative to the base point GB Wop which was assigned an arbitrary value. A complete listing of the gravity data is given in Appendix A.

THE GRAVITY MAPS

The gravity survey was designed to test for the presence of massive lead-zinc mineralization within the phyllitic units underlying the area surveyed. Under the concept of search we are interested in detecting massive sulphide bodies with total tonnage in the range 20-60 million tons. This means that their gravity response is expected to be recognizable and probably greater than 1.0 mgal in amplitude. Subtler anomalies less than 1.0 mgal can be interpreted from the data. However, before this can be done with any certainty, further geological, geochemical and geophysical constraints are required. This

means that for a 'first pass' interpretation only the obvious and strong gravity anomalies will be identified. As more supportive data becomes available, then, and only then, should the subtler gravity features be investigated in more detail.

The elevation maps for the east and central part of the Tenas Project area are given on Figures 3-1 and 3-2 respectively. The complete Bouguer gravity maps for these same areas are given on Figures 4-1 and 4-2. The current Tenas gravity grid was tied to the old Wop gravity grid. The previous Wop data was combined with the Tenas data, recalculated and replotted using density 2.80 g/cc. The resulting gravity map represents all available gravity data on a common elevation and gravity datum.

INTERPRETATION OF RESULTS

The complete Bouguer gravity maps (Fig. 4-1,4-2) represent an excellent overview of the gross geology underlying the survey area. It is important to keep in mind that the area surveyed is some 18 km long by 2-4 km wide. In terms of mining exploration, this represents an extremely large area. With this in mind, the following interpretation is made:

(1) Broad Gravity Highs = Andesitic Units

A broad gravity high feature occupies the main part of the area surveyed. It stretches from the Bar, through the Wop, Bell and Tenas claims. It follows the road as a narrow high and is open to the east on the T claims. The anomaly is extremely large in areal extent - some 1-2 km wide by more than 12 km long. The central plateau of the gravity high most certainly maps the general position of the andesitic units, and may well indicate a large 'volcanic dome' feature.

Similar gravity high features are partly mapped on the southern part of the Bar claims (south of 1500S on all lines between 4500W and 00EW) and on the southeastern end of the T claims (south of BL+9300E to L12500E+1500N inclusive). These areas are interpreted to indicate the presence of andesitic units as well.

(2) Gravity Gradient Areas = Phyllitic Units

If phyllites have the same density as andesitic rocks then gravity cannot distinguish their difference. However, many of the phyllitic rocks in the belt have densities in the range 2.70-2.80 g/cc. These values are somewhat lower

than andesitic rocks which average 2.80-2.90 g/cc. Combine this with the fact that the andesitic units generally overlie less dense phyllitic rocks and it infers that gravity gradient areas will map the general presence of phyllitic rocks. Using this as a guide we see that phyllites should be present in the gravity gradient areas on the northern and southern flanks of the broad gravity high (andesitic rocks) features as discussed above. Intrusive rocks lie to the north of the survey area as indicated by steepening gravity gradients.

(3) Broad Gravity Lows = Unconsolidated Material

The gravity low features which follow the Ross River valley and extend along Tenas Creek clearly indicate the presence of unconsolidated material. Based on a density of 2.0 g/cc for 'overburden' and using a residual gravity of 3.5-4.5 mgal, this material has a thickness in the range 100-150 meters under the Ross River. Under Tenas Creek, narrower channels of 100 meters or more of unconsolidated material are indicated.

(4) Confined Gravity Highs = Potential Massive Sulphide Bodies

As stated previously, massive sulphide bodies will yield recognizable gravity highs if their tonnage is in the range 20-60 million tons. These features will exhibit

themselves as either gravity high closures, as contortions in the gravity gradient, or as a combination of both. Inspection of the complete Bouguer gravity maps (Figs. 4-1,4-2) indicates four gravity high targets of economic interest. Of these anomalies, only one (Pelly Anomaly) is truly outstanding. The residual gravity anomalies associated with each feature are shown on Figures 5-1 and 5-2. Discussion of each anomaly and its association with other geological, geochemical and geophysical data are discussed below.

THE GRAVITY ANOMALIES

The four gravity high features which have been identified from the complete Bouguer gravity maps as being of potential economic interest are listed below in order of decreasing economic importance.

(1) Pelly Anomaly

This 2.0 mgal gravity high feature is shown on Figure 5-1. It is located south of the Ross River on the northern flanks of a moderately sloping hillside. The anomaly is centered at L10650E+480N and extends over an area some 1000 meters east-west by 600 meters north-south. The anomaly is caused by either a heavier rock unit, or a massive sulphide body, or a combination of both. The parameters associated with each interpret-

ation are as follows:

PARAMETER	MASSIVE SULPHIDE MODEL	ROCK UNIT MODEL
Density	4.00 g/cc	3.00 g/cc
Total Tonnage	53.4 million tons	240 million tons
Geometry and Thickness	Flat lying, central zone 40 meters thick	Funnel shaped with vertical spout over 240 meters depth extent.
Depth to Center of Mass	150 meters	150 meters
Co-ord of Center of Mass	L10650E+480N	L10650E+480N

Density measurements taken from 'dome matrix' rock samples collected over the anomaly area do not exhibit sufficient contrast to explain the feature. Massive sulphides, discovered in float and outcrop during followup prospecting, has density around 4.0 g/cc. These massive sulphide 'sweats' are on the eastern flank of the anomaly and point to the massive sulphide model listed above as a realistic explanation of the anomaly. The main zone of the feature is shown by a shaded zone on Figure 5-1. It is within this target area that initial drilling should be concentrated.

(2) Bar Anomaly

The gravity high feature centered at about 720S and extending between lines 3400W to 2300W is called the 'Bar Anomaly' (see Figure 5-2). Strong EM conductors on the west grade into very weak conductive zones in the vicinity of the anomaly (Walcott, 1975). The feature is situated in low flat swamp lands where no geological or geochemical data are available. The fact that the gravity high is surrounded by a 'halo' of lows raises some question as to the economic nature of the source. The most obvious interpretation of the anomaly is that it is an 'apparent' anomaly caused by increasing thickness of overburden on all its flanks. However, it does have features which make it a potential drill target as well. The interpreted massive sulphide parameters are as follows:

PARAMETER	MASSIVE SULPHIDE MODEL
Density	4.0 g/cc
Total Tonnage	65.6 million tons
Geometry & Thickness	Flat lying, maximum thickness of 25 meters
Depth to Center of Mass	Unknown, but less than 350 meters
Co-ord of Center of Mass	L2700W+780S

(3) Tenas Anomaly

The Tenas Anomaly is a weaker feature of amplitude about 0.6 mgals. It is on the north side of a moderate EM conductor (Walcott, 1975) and on the uphill side of geochemical anomalies which are located to the west of the feature. It has an excess mass of 1.43 million tons which corresponds to a potential ore body of 4.8 million tons of density 4.0 g/cc. The anomaly is elongated northwest-southeast over an area 600 meters by 250 meters. It is situated near the southern edge of intrusive rocks to the north. For this reason, it could represent a border phase of the intrusive unit. This feature should be examined in detail by correlation with all other exploration data before comments regarding its economic nature can be clarified. The center of the anomaly is situated at grid co-ordinates L4550E+1800N on the northern edge of the Tenas claims (Figure 5-1).

(4) Ross Anomaly

The Ross Anomaly is marked by a sharp change in the direction of the gravity gradient in the vicinity of BL+4800E. The feature is centered at about L4900E+1800N. The ground in this region is very swampy and inaccessible except during winter frozen periods. As a result,

insufficient gravity data is presently available to fully define and explain the feature. However, the steep gravity gradient suggests that the anomaly is on the southern flank of an andesite-phyllite and/or andesite-overburden contact. The 'region' of interest is indicated by the circular area on Figure 5-1. More gravity and other data is needed before further comments are in order.

CONCLUSIONS & RECOMMENDATIONS

The gravity maps with interpretation presented here represents a 'first pass' inspection of the results. The gravity high features which are designated anomalous are the most prominent gravity targets within the area surveyed. When the results of this seasons work program are compiled in final format, then attention should be placed on the 'subtler effects' in regions deemed interesting for other reasons.

The following conclusions and recommendations are made for the four potential massive sulphide targets. They are discussed in order of decreasing economic importance.

(1) Pelly Anomaly

Without question, the most prominent gravity anomaly within the survey area is the Pelly Anomaly. It has features very similar to gravity highs over other deposits in the belt. It should be drilled to depths of 300 meters. Initial drill holes should be concentrated in the central part of the anomalous zone as shown on Figure 5-1.

(2) Bar Anomaly

The Bar Anomaly is a distinct gravity high feature. However, it is surrounded by unknown thicknesses of unconsolidated material (overburden) and could therefore represent an 'overburden effect'. For this reason, resistivity depth profiling should be done over and around the feature (BL to 1500S on lines 3200W to 1100W inclusive). This work will either explain the anomaly or result in its elevation to a good drill target.

(3) Tenas Anomaly

As stated previously, the Tenas Anomaly is a weak feature. It is in the vicinity of EM conductors and

geochemical anomalies. However, it is also near or on the border phase of intrusive rocks to the north. In order for the gravity feature to be important, it must be supported 'in fact' by encouraging results from the current work program. If it still looks interesting, a tighter and more detailed gravity grid should be established over the feature to re-check it's existence and to isolate it's areal extent more clearly before drilling.

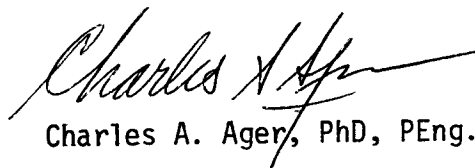
(4) Ross Anomaly

The Ross Anomaly is only partly covered by the recent gravity work. It is situated in swamp lands which are accessible only in winter months. Further geological, geochemical and gravity work are needed before comments regarding it's economic nature are in order.

Simply stated, the gravity data presented here gives a good overview of the gross geology of the survey area and also provides definite targets for potential massive sulphide ore bodies. It is for these latter reasons that

further gravity work is recommended over the target areas as well as the remainder of the Tenas Project claims area to the west.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Charles A. Ager".

Charles A. Ager, PhD, PEng.

Geophysicist

August 2, 1977

REFERENCES

- Ager, C.A. (1974-1): Gravity Survey - Wop & Chap Claims Grids, Tenas Creek area, Y.T., Nov. 18, 1974.
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- Smith, F.M. (1977). Personal communication.
- Walcott, P.E. (1975): A Geophysical Report on a Turam EM Survey on the Tenas, Bar and Mal claims, July 1976.

TENAS PROJECT GRAVITY DATA

Bouguer density = 2.80 g/cc; Elevation factor = 0.19128 mgal/meter

STATION COORD. (meters)	ELEVATION (meters)	OBSERVED GRAVITY (mgal)	C. BOUGUER GRAVITY (mgal)
GB WOP	760.84	0.00	
GB 77-1		5.11	
GB 77-2	792.17	-15.05	
GB 77-3	780.13	-13.12	
GB 77-4	752.55	0.55	
2400S 4300W	938.56	-34.71	139.41
2340S 4300W	944.88	-35.94	139.26
2280S 4300W	952.41	-37.44	139.15
2220S 4300W	954.35	-37.99	138.96
2160S 4300W	957.98	-39.03	138.67
2100S 4300W	952.22	-37.88	138.69
2040S 4300W	946.22	-36.70	138.73
1980S 4300W	939.31	-35.62	138.48
1920S 4300W	928.04	-33.14	138.77
1860S 4300W	925.07	-32.59	138.70
1800S 4300W	914.65	-30.60	138.64
1740S 4300W	909.66	-29.82	138.41
1680S 4300W	901.82	-28.27	138.40
1620S 4300W	896.08	-27.02	138.48
1560S 4300W	896.00	-27.06	138.35
1500S 4300W	896.89	-27.54	138.01
1440S 4300W	881.79	-24.52	138.11
1380S 4300W	886.17	-25.45	137.96
1320S 4300W	883.92	-25.01	137.94
1260S 4300W	878.72	-24.02	137.92
1200S 4300W	876.34	-23.62	137.85
1140S 4300W	871.02	-22.95	137.49
1080S 4300W	867.85	-22.41	137.44
1020S 4300W	869.04	-22.93	137.24
960S 4300W	862.23	-21.54	137.41
900S 4300W	859.19	-21.10	137.44
840S 4300W	845.64	-18.62	137.29
780S 4300W	829.85	-15.43	137.41
720S 4300W	818.09	-13.13	137.35
660S 4300W	806.06	-10.66	137.37
600S 4300W	799.49	-9.26	137.35
540S 4300W	796.44	-8.83	137.07
480S 4300W	793.87	-8.37	136.97
420S 4300W	785.45	-6.83	136.84
360S 4300W	780.52	-5.95	136.72
300S 4300W	778.81	-5.83	136.44
240S 4300W	771.95	-4.61	136.29
180S 4300W	765.81	-3.44	136.23
120S 4300W	766.53	-3.81	135.93
60N 4300W	761.79	-4.14	134.61
120N 4300W	759.53	-4.27	134.04
180N 4300W	751.35	-2.93	133.80
240N 4300W	747.73	-2.63	133.37
300N 4300W	745.97	-2.52	133.11
360AN 4300W	743.24	-2.02	133.08
360N 4300W	742.22	-1.58	133.38

420N	4300W	747.62	-2.86	133.08
480N	4300W	747.98	-3.15	132.96
540N	4300W	753.75	-4.42	132.82
600N	4300W	766.99	-7.36	132.38
660N	4300W	768.59	-7.60	132.53
720N	4300W	773.36	-8.80	132.37
780N	4300W	783.54	-10.90	132.26
840N	4300W	794.83	-13.05	132.32
900N	4300W	811.90	-16.50	132.14
960N	4300W	822.49	-18.52	132.17
1020N	4300W	827.71	-19.71	132.11
1080N	4300W	843.95	-23.14	131.80
1140N	4300W	861.08	-26.73	131.44
1200N	4300W	882.83	-31.14	131.26
2400S	4000W	972.12	-40.24	140.52
2340S	4000W	976.86	-41.19	140.48
2280S	4000W	986.62	-43.60	140.09
2220S	4000W	997.48	-46.48	139.72
2160S	4000W	995.71	-47.00	138.95
2100S	4000W	968.47	-41.52	138.68
2040S	4000W	950.33	-37.74	138.94
1980S	4000W	940.34	-35.76	138.88
1920S	4000W	942.72	-36.25	138.69
1860S	4000W	937.20	-35.32	138.57
1800S	4000W	931.40	-34.15	138.68
1740S	4000W	918.97	-31.99	138.43
1680S	4000W	906.33	-29.35	138.58
1620S	4000W	895.28	-27.32	138.38
1560S	4000W	885.34	-25.46	138.26
1500S	4000W	882.44	-24.80	138.22
1440S	4000W	877.54	-23.88	138.13
1380S	4000W	877.95	-23.90	138.09
1320S	4000W	884.33	-25.43	137.75
1260S	4000W	884.39	-25.66	137.60
1200S	4000W	881.33	-25.30	137.45
1140S	4000W	872.22	-23.59	137.47
1080S	4000W	860.84	-21.44	137.49
1020S	4000W	848.94	-19.28	137.43
960S	4000W	835.22	-16.61	137.50
900S	4000W	824.07	-14.28	137.66
840S	4000W	818.08	-12.98	137.71
780S	4000W	809.42	-11.50	137.47
720S	4000W	798.62	-9.89	136.96
660S	4000W	794.72	-9.28	136.68
600S	4000W	787.12	-8.05	136.37
540S	4000W	781.15	-7.03	136.15
480S	4000W	776.42	-6.35	135.82
420S	4000W	772.88	-5.65	135.74
360S	4000W	770.85	-5.17	135.74
300S	4000W	768.50	-4.70	135.69
240S	4000W	768.57	-4.88	135.46
180S	4000W	769.59	-5.08	135.42
120S	4000W	769.30	-5.10	135.34
60S	4000W	764.40	-4.26	135.20
60N	4000W	748.38	-1.50	134.86
120N	4000W	744.64	-1.53	134.07
180N	4000W	744.54	-1.93	133.56
240N	4000W	744.89	-2.35	133.15
300N	4000W	743.66	-2.31	132.92
360N	4000W	744.52	-2.60	132.78

420AN	400CW	743.91	-2.69	132.55
420N	400CW	742.66	-2.41	132.78
480N	400CW	751.31	-4.00	132.90
540N	400CW	756.93	-5.16	132.96
60CN	400CW	774.73	-8.75	132.84
660N	400CW	785.16	-10.62	133.02
720N	400CW	799.85	-13.81	132.68
78CN	400CW	807.79	-15.46	132.50
840N	400CW	816.15	-17.24	132.31
900N	400CW	824.38	-19.07	132.11
960N	400CW	832.82	-21.14	131.76
1020N	400CW	850.29	-24.64	131.73
1080N	400CW	854.03	-25.68	131.59
1140N	400CW	868.77	-28.99	131.27
1200N	400CW	891.67	-33.96	130.78
240CS	370CW	994.21	-44.17	140.75
2340S	370CW	994.33	-44.30	140.65
2280S	370CW	992.66	-44.26	140.38
2220S	370CW	991.84	-44.55	140.03
2160S	370CW	987.55	-44.49	139.43
2100S	370CW	974.95	-42.64	138.91
2040S	370CW	958.24	-39.08	139.29
1980S	370CW	948.49	-37.40	139.07
1920S	370CW	933.11	-34.51	138.97
1860S	370CW	925.28	-32.99	138.88
1800S	370CW	914.02	-30.88	138.74
1740S	370CW	905.25	-29.04	138.80
1680S	370CW	901.80	-28.31	138.70
1620S	370CW	896.78	-27.76	138.19
1560S	370CW	903.55	-29.23	138.04
1500S	370CW	900.64	-28.63	138.13
1440S	370CW	899.20	-26.38	138.11
1380S	370CW	875.89	-23.40	138.52
1320S	370CW	866.78	-21.75	138.39
1260S	370CW	867.12	-21.94	138.21
1200S	370CW	861.39	-21.18	137.92
1140S	370CW	850.60	-19.07	138.02
1080S	370CW	843.37	-17.80	137.98
1020S	370CW	828.21	-14.97	137.95
960S	370CW	815.61	-12.53	137.95
900S	370CW	804.74	-10.57	137.73
840S	370CW	797.62	-9.34	137.45
780S	370CW	798.43	-9.65	137.10
720S	370CW	789.15	-7.73	137.20
660S	370CW	782.84	-6.66	137.00
600S	370CW	776.79	-5.52	136.91
540S	370CW	771.43	-4.40	136.93
480S	370CW	768.73	-3.79	136.92
420S	370CW	769.57	-3.88	136.92
360S	370CW	769.60	-3.87	136.91
300S	370CW	761.44	-2.40	136.77
240S	370CW	754.91	-1.45	136.43
180S	370CW	750.85	-0.82	136.24
120S	370CW	749.01	-0.83	135.80
60S	370CW	744.51	-0.28	135.45
60N	370CW	741.89	-0.80	134.31
120N	370CW	742.00	-1.17	133.92
180N	370CW	742.47	-1.46	133.67
240N	370CW	742.73	-1.71	133.44
300N	370CW	743.41	-1.98	133.29

360N	3700W	742.96	-1.95	133.24
420N	3700W	739.91	-1.38	133.31
480N	3700W	742.48	-2.02	133.29
540N	3700W	746.72	-3.13	133.15
600N	3700W	763.84	-6.58	133.00
660N	3700W	779.26	-9.64	132.98
720N	3700W	738.24	-11.38	132.97
780N	3700W	800.57	-14.09	132.62
840N	3700W	812.27	-16.40	132.57
900N	3700W	819.75	-18.01	132.45
960N	3700W	835.40	-21.43	132.17
1020N	3700W	848.30	-24.15	132.06
1080N	3700W	857.29	-26.36	131.71
1140N	3700W	877.89	-30.99	131.22
1200N	3700W	898.25	-35.52	130.74
2400S	3400W	993.00	-44.45	140.58
2340S	3400W	989.33	-44.09	140.29
2280S	3400W	1003.68	-47.96	139.72
2220S	3400W	991.54	-45.94	139.41
2160S	3400W	977.25	-41.87	139.26
2100S	3400W	956.76	-39.39	139.14
2040S	3400W	944.96	-37.14	138.85
1980S	3400W	928.10	-33.88	138.80
1920S	3400W	923.47	-32.96	138.63
1860S	3400W	926.42	-33.72	138.30
1800S	3400W	920.81	-32.75	138.18
1740S	3400W	906.93	-30.11	138.14
1680S	3400W	908.85	-30.72	137.97
1620S	3400W	893.63	-27.67	138.04
1560S	3400W	878.75	-24.76	138.11
1500S	3400W	866.90	-22.27	138.29
1440S	3400W	863.15	-21.69	137.99
1380S	3400W	860.49	-21.19	137.86
1320S	3400W	858.42	-20.90	137.72
1260S	3400W	860.07	-21.58	137.46
1200S	3400W	847.27	-19.09	137.54
1140S	3400W	835.39	-16.89	137.52
1080S	3400W	818.05	-13.51	137.60
1020S	3400W	834.83	-11.16	137.42
960S	3400W	800.15	-10.28	137.15
900S	3400W	799.98	-10.03	137.11
840S	3400W	805.40	-11.38	136.75
780S	3400W	800.59	-10.39	136.82
720S	3400W	793.12	-8.86	136.97
660S	3400W	782.63	-6.68	137.17
600S	3400W	767.88	-3.55	137.47
540S	3400W	758.85	-1.68	137.54
480S	3400W	750.52	0.17	137.70
420S	3400W	745.46	1.06	137.50
360S	3400W	744.08	0.55	136.59
300S	3400W	743.10	0.04	135.79
240S	3400W	742.79	-0.31	135.29
180S	3400W	746.09	-1.40	134.76
120S	3400W	746.26	-1.59	134.56
60S	3400W	742.91	-1.05	134.40
60N	3400W	740.96	-0.96	134.02
120N	3400W	736.38	0.08	134.19
180N	3400W	740.69	-0.75	134.15
240N	3400W	741.20	-0.79	134.19
300N	3400W	741.17	-0.67	134.33

360N	3400W	743.34	-1.04	134.46
420N	3400W	759.01	-4.85	133.63
480N	3400W	769.99	-7.39	133.29
540N	3400W	771.05	-7.53	133.23
600N	3400W	762.10	-5.52	133.52
660N	3400W	757.54	-6.74	133.43
720N	3400W	775.84	-8.30	133.54
780N	3400W	784.51	-10.13	133.45
840N	3400W	795.81	-12.67	133.17
900N	3400W	804.29	-14.74	132.86
960N	3400W	819.14	-17.99	132.58
1020N	3400W	830.24	-22.49	132.44
1080N	3400W	837.28	-22.50	132.16
1140N	3400W	854.13	-28.11	131.88
1200N	3400W	892.07	-33.60	131.91
1260N	3400W	904.37	-36.01	131.77
2400S	3100W	931.27	-43.62	139.57
2340S	3100W	966.37	-41.30	139.01
2280S	3100W	949.65	-38.36	138.80
2220S	3100W	942.06	-36.89	138.76
2160S	3100W	934.56	-35.47	138.67
2100S	3100W	927.48	-34.28	138.35
2040S	3100W	924.29	-33.71	138.18
1980S	3100W	918.31	-32.86	137.83
1920S	3100W	910.85	-31.48	137.74
1860S	3100W	900.77	-29.77	137.49
1800S	3100W	894.45	-28.44	137.57
1740S	3100W	887.95	-27.20	137.53
1680S	3100W	879.27	-25.53	137.51
1620S	3100W	867.07	-23.20	137.49
1560S	3100W	859.74	-21.72	137.49
1500S	3100W	864.60	-22.57	137.36
1440S	3100W	872.34	-24.48	137.12
1380S	3100W	854.49	-20.71	137.41
1320S	3100W	837.87	-17.36	137.63
1260S	3100W	825.91	-15.11	137.59
1200S	3100W	816.68	-13.32	137.50
1140S	3100W	809.50	-12.10	137.22
1080S	3100W	808.49	-12.12	136.83
1020S	3100W	808.14	-11.96	136.78
960S	3100W	810.58	-12.53	136.63
900S	3100W	805.04	-11.25	136.82
840S	3100W	802.01	-10.55	136.95
780S	3100W	798.40	-9.80	137.07
720S	3100W	793.18	-8.93	137.03
660S	3100W	734.52	-7.15	137.23
600S	3100W	763.09	-2.62	137.64
540S	3100W	750.17	-0.15	137.60
480S	3100W	743.89	1.14	137.49
420S	3100W	739.13	1.91	137.17
300S	3100W	738.90	0.79	135.76
240S	3100W	738.66	0.38	135.25
180S	3100W	738.85	0.26	135.11
120S	3100W	732.28	1.36	134.95
60S	3100W	738.91	-0.19	134.59
60N	3100W	738.98	-0.01	134.72
120N	3100W	739.15	-0.12	134.61
180N	3100W	739.46	0.14	134.90
240N	3100W	739.77	0.11	134.91
300N	3100W	740.09	0.20	135.07

360N	3100W	743.32	-0.50	135.00
420N	3100W	742.75	-0.31	135.20
480N	3100W	745.30	-0.99	135.16
540N	3100W	763.92	-5.03	134.68
600N	3100W	730.02	-8.38	134.47
660N	3100W	792.57	-11.23	134.00
720N	3100W	792.87	-11.04	134.04
780N	3100W	794.04	-11.22	134.03
840N	3100W	800.44	-12.40	134.14
900N	3100W	807.11	-14.34	133.57
960N	3100W	814.71	-16.19	133.33
1020N	3100W	822.73	-18.15	133.15
1080N	3100W	832.30	-20.68	132.75
1140N	3100W	844.86	-23.39	132.79
1200N	3100W	867.93	-28.15	132.68
1260N	3100W	889.69	-32.48	132.64
2400S	2700W	957.62	-41.43	139.43
2340S	2700W	957.20	-39.59	139.24
2280S	2700W	951.10	-38.57	139.09
2220S	2700W	937.66	-36.01	139.07
2160S	2700W	923.42	-33.04	139.30
2100S	2700W	908.34	-30.21	139.19
2040S	2700W	901.32	-28.85	139.03
1980S	2700W	890.48	-26.58	139.11
1920S	2700W	881.48	-25.10	138.76
1860S	2700W	875.92	-24.10	138.56
1800S	2700W	874.45	-24.11	138.15
1740S	2700W	868.94	-23.15	138.00
1680S	2700W	865.64	-22.45	138.08
1620S	2700W	859.88	-21.23	138.20
1560S	2700W	853.45	-20.26	137.97
1500S	2700W	840.93	-17.98	137.85
1440S	2700W	829.32	-15.52	138.07
1380S	2700W	820.01	-13.78	137.94
1320S	2700W	817.06	-13.49	137.51
1260S	2700W	815.92	-13.57	137.10
1200S	2700W	811.96	-12.84	137.00
1140S	2700W	810.52	-12.51	137.02
1080S	2700W	807.68	-11.67	137.28
1020S	2700W	807.04	-11.48	137.40
960S	2700W	804.11	-10.63	137.76
900S	2700W	796.75	-9.11	137.86
840S	2700W	786.84	-6.58	138.45
780S	2700W	775.10	-4.31	138.39
720S	2700W	763.00	-2.05	138.24
660S	2700W	756.25	-0.87	138.03
600S	2700W	752.52	-0.31	137.75
540S	2700W	746.96	0.76	137.66
480S	2700W	742.17	2.01	137.92
420S	2700W	738.55	2.90	138.05
360S	2700W	738.73	1.78	136.88
300S	2700W	741.36	0.70	136.26
240S	2700W	737.48	1.06	135.82
180S	2700W	737.72	0.65	135.41
120S	2700W	732.33	1.56	135.29
60S	2700W	737.39	0.45	135.08
60N	2700W	737.55	0.51	135.09
120N	2700W	738.10	0.66	135.32
180N	2700W	738.68	0.79	135.54
240N	2700W	740.97	0.31	135.46

300N	270CW	742.32	0.05	135.45
360N	270CW	744.43	-0.25	135.55
420N	270CW	747.07	-0.97	135.33
480N	270CW	750.76	-1.79	135.22
540N	270CW	756.71	-2.89	135.28
600N	270CW	760.24	-3.40	135.47
660N	270CW	765.74	-4.39	135.56
720N	270CW	775.04	-6.35	135.38
780N	270CW	787.29	-9.28	134.84
840N	270CW	785.65	-9.01	134.76
900N	270CW	790.50	-10.28	134.53
960N	270CW	796.64	-11.75	134.40
1020N	270CW	805.47	-12.76	134.24
1080N	270CW	813.40	-15.59	134.21
1140N	270CW	823.12	-17.69	134.38
1200N	270CW	842.73	-21.77	134.22
1260N	270CW	860.76	-25.43	134.18
240S	230CW	953.30	-39.44	138.80
2340S	230CW	947.77	-38.48	138.64
2280S	230CW	932.51	-35.45	138.72
2220S	230CW	921.09	-33.31	138.67
2160S	230CW	914.10	-31.99	138.54
2100S	230CW	903.22	-29.75	138.66
2040S	230CW	893.52	-27.75	138.74
1980S	230CW	881.64	-25.56	138.61
1920S	230CW	880.23	-25.52	138.23
1860S	230CW	885.10	-26.58	138.19
1800S	230CW	882.07	-26.33	138.14
1740S	230CW	869.27	-24.01	138.09
1680S	230CW	857.52	-22.06	137.91
1620S	230CW	847.29	-20.26	137.88
1560S	230CW	830.75	-17.37	137.43
1500S	230CW	813.33	-14.35	136.96
1440S	230CW	798.52	-11.55	136.73
1380S	230CW	785.92	-9.03	136.65
1320S	230CW	778.81	-7.59	136.53
1260S	230CW	770.61	-5.89	136.52
1200S	230CW	760.38	-3.59	136.76
1140S	230CW	757.14	-2.85	136.74
1080S	230CW	751.63	-1.58	136.85
1020S	230CW	747.26	-0.11	137.39
960S	230CW	748.14	-0.01	137.53
900S	230CW	745.43	0.61	137.55
840S	230CW	743.58	1.37	137.88
780S	230CW	742.61	1.87	138.14
720S	230CW	742.58	1.86	138.06
660S	230CW	738.98	2.55	138.01
600S	230CW	739.41	2.13	137.62
540S	230CW	740.29	1.47	137.09
480S	230CW	733.38	2.73	137.01
420S	230CW	732.73	2.31	136.43
360S	230CW	741.24	0.05	135.72
300S	230CW	740.57	-0.02	135.49
240S	230CW	736.78	0.35	135.09
180S	230CW	736.38	0.45	135.07
120S	230CW	733.30	1.19	135.21
60S	230CW	731.42	1.75	135.40
0N	230CW	735.84	1.05	135.47
60N	230CW	741.82	0.08	135.62
120N	230CW	744.89	-0.39	135.71

180N	2300W	744.45	-0.07	135.90
240N	2300W	743.95	0.33	136.19
300N	2300W	751.00	-1.18	135.99
360N	2300W	748.64	-0.45	136.25
420N	2300W	749.85	-0.60	136.31
480N	2300W	753.55	-1.40	136.21
540N	2300W	757.16	-2.25	136.07
600N	2300W	761.45	-3.22	135.94
660N	2300W	766.88	-4.17	136.04
720N	2300W	774.73	-5.87	135.87
780N	2300W	782.70	-7.66	135.60
840N	2300W	788.80	-9.03	135.43
900N	2300W	795.09	-10.47	135.25
960N	2300W	803.38	-12.29	135.12
1020N	2300W	816.68	-15.14	134.91
1080N	2300W	829.19	-17.80	134.84
1140N	2300W	842.16	-20.56	134.52
1200N	2300W	854.99	-23.14	134.42
1260N	2300W	864.16	-25.05	134.36
2400S	1900W	940.09	-37.24	138.39
2340S	1900W	927.70	-34.68	138.59
2280S	1900W	920.26	-33.26	138.55
2220S	1900W	915.36	-32.61	138.20
2160S	1900W	907.70	-31.19	138.13
2100S	1900W	905.10	-30.80	138.08
2040S	1900W	900.50	-30.17	138.01
1980S	1900W	888.96	-23.08	138.10
1920S	1900W	875.74	-25.75	138.13
1860S	1900W	861.88	-23.40	138.12
1800S	1900W	844.84	-20.68	137.90
1740S	1900W	823.20	-16.81	137.88
1680S	1900W	790.64	-10.78	137.80
1620S	1900W	760.76	-4.93	137.80
1560S	1900W	749.14	-2.53	137.36
1500S	1900W	737.05	-0.20	136.88
1440S	1900W	733.28	0.02	135.95
1380S	1900W	735.05	-0.51	135.31
1320S	1900W	731.80	0.23	135.24
1260S	1900W	726.48	1.38	135.29
1200S	1900W	724.11	2.11	135.44
1140S	1900W	721.45	3.06	135.77
1080S	1900W	722.79	2.97	135.81
1020S	1900W	719.22	4.09	136.23
960S	1900W	722.54	3.47	136.13
900S	1900W	726.47	2.78	136.11
840S	1900W	733.47	1.45	136.06
780S	1900W	730.45	2.44	136.41
660S	1900W	727.39	2.97	136.37
600S	1900W	734.67	1.22	135.92
540S	1900W	738.39	0.27	135.65
480S	1900W	741.00	-0.59	135.26
420S	1900W	741.76	-0.67	135.26
360S	1900W	742.03	-0.84	135.11
300S	1900W	742.12	-0.85	135.09
240S	1900W	743.18	-1.19	134.93
180S	1900W	743.12	-1.27	134.84
120S	1900W	728.41	2.02	135.38
60S	1900W	730.70	1.77	135.45
00S	1900W	734.60	0.92	135.27
60N	1900W	744.79	0.27	136.54

120N	1900W	742.85	0.99	136.86
180N	1900W	742.95	1.20	137.06
240N	1900W	744.44	1.19	137.34
300N	1900W	746.85	0.95	137.58
360N	1900W	750.33	0.52	137.84
420N	1900W	756.93	-0.82	137.77
480N	1900W	771.45	-4.31	137.09
540N	1900W	773.32	-4.53	137.14
600N	1900W	775.32	-5.00	137.01
660N	1900W	781.76	-6.31	136.95
720N	1900W	789.04	-7.97	136.68
780N	1900W	795.63	-9.40	136.52
840N	1900W	802.72	-10.85	136.43
900N	1900W	807.20	-11.90	136.26
960N	1900W	812.38	-12.91	136.30
1020N	1900W	827.13	-16.01	136.03
1080N	1900W	838.65	-18.41	135.84
1140N	1900W	829.51	-16.68	135.99
1200N	1900W	840.74	-19.31	135.61
1260N	1900W	851.59	-21.66	135.50
1320N	1900W	867.86	-25.18	135.09
1380N	1900W	887.07	-29.11	134.80
1440N	1900W	901.99	-31.98	134.77
1500N	1900W	907.19	-32.94	134.87
1560N	1900W	917.18	-35.00	134.87
1620N	1900W	939.00	-39.50	134.58
1680N	1900W	958.87	-43.46	134.42
1740N	1900W	975.51	-46.62	134.37
1800N	1900W	985.53	-48.59	134.23
1860N	1900W	1002.96	-52.21	133.87
1920N	1900W	1016.20	-54.92	133.61
1980N	1900W	1035.52	-58.99	133.17
2040N	1900W	1050.36	-62.06	132.85
2400S	1500W	920.32	-33.78	138.21
2340S	1500W	913.77	-32.28	138.52
2280S	1500W	902.31	-30.33	138.32
2220S	1500W	889.72	-27.88	138.42
2160S	1500W	876.38	-25.37	138.50
2100S	1500W	875.64	-25.39	138.58
2040S	1500W	858.62	-22.65	138.40
1980S	1500W	839.18	-19.27	138.45
1920S	1500W	815.10	-15.41	138.04
1860S	1500W	781.71	-9.44	137.87
1800S	1500W	751.96	-4.33	137.30
1740S	1500W	743.59	-2.91	136.26
1680S	1500W	739.30	-2.46	135.15
1620S	1500W	737.63	-2.09	134.67
1560S	1500W	732.64	-0.83	134.71
1500S	1500W	733.97	-1.04	134.52
1440S	1500W	723.22	1.29	134.74
1380S	1500W	720.79	2.11	135.03
1320S	1500W	731.07	0.20	134.82
1260S	1500W	732.07	0.25	134.99
1200S	1500W	727.23	1.69	135.45
1140S	1500W	730.97	1.13	135.54
1080S	1500W	732.66	0.93	135.62
1020S	1500W	730.56	1.43	135.67
960S	1500W	732.00	1.20	135.69
900S	1500W	732.36	1.16	135.69
840S	1500W	726.05	2.45	135.75

780S	150CW	722.14	3.39	135.96
720S	150CW	725.53	2.49	135.63
66CS	150CW	734.52	0.74	135.57
600S	150CW	735.08	0.65	135.53
54CS	150CW	733.81	1.39	135.99
48CS	150CW	728.03	2.60	136.08
420S	150CW	723.95	4.21	136.99
36CS	150CW	733.71	2.38	136.87
300S	150CW	733.81	2.83	137.33
24CS	150CW	738.09	2.07	137.33
180S	150CW	743.31	0.97	137.18
120S	150CW	742.55	1.10	137.12
60S	150CW	744.48	1.31	137.67
1500S	130CW	734.65	-1.01	134.63
1440S	130CW	732.63	-0.32	134.83
1380S	130CW	722.08	2.10	135.27
1320S	130CW	726.17	1.55	135.32
1260S	130CW	732.08	0.85	135.66
1200S	130CW	731.00	1.80	136.35
1140S	130CW	738.12	0.53	136.40
1080S	130CW	737.27	1.26	136.92
1020S	130CW	736.19	1.77	137.18
960S	130CW	735.62	1.90	137.17
900S	130CW	735.06	2.15	137.29
840S	130CW	732.80	2.78	137.46
780S	130CW	733.80	2.35	137.19
720S	130CW	724.69	4.62	137.77
660S	130CW	726.22	4.28	137.67
600S	130CW	727.99	4.05	137.70
540S	130CW	724.72	5.04	138.12
480S	130CW	735.87	2.75	137.83
420S	130CW	741.40	1.75	137.87
360S	130CW	742.30	1.93	138.17
300S	130CW	746.25	1.24	138.21
240S	130CW	743.34	2.16	138.52
180S	130CW	746.45	1.60	138.52
120S	130CW	747.31	1.48	138.51
60S	130CW	747.79	1.43	138.53
2220S	110CW	872.45	-24.51	138.53
2160S	110CW	862.26	-22.46	138.67
2100S	110CW	852.63	-20.81	138.63
2040S	110CW	840.82	-18.67	138.70
1980S	110CW	824.36	-15.58	138.85
1920S	110CW	807.49	-12.84	138.51
1860S	110CW	789.83	-9.92	138.03
1800S	110CW	755.84	-3.94	137.45
1740S	110CW	739.07	-1.25	136.66
1680S	110CW	739.35	-1.63	135.66
1620S	110CW	732.70	-0.34	135.40
1560S	110CW	725.44	0.94	135.11
1500S	110CW	731.13	-0.28	134.75
1440S	110CW	714.59	3.49	135.49
1380S	110CW	726.60	1.18	135.17
1320S	110CW	732.93	0.29	135.41
1260S	110CW	734.86	0.39	135.82
1200S	110CW	739.63	-0.06	136.26
1170S	110CW	739.88	0.28	136.57
1140S	110CW	739.48	0.67	136.89
1110S	110CW	734.59	2.13	137.37
1080S	110CW	735.46	2.56	137.98

1050S	110CW	740.37	1.96	138.27
1020S	110CW	743.84	1.65	138.62
990S	110CW	743.54	2.22	139.11
960S	1100W	743.59	2.53	139.42
900S	1100W	744.35	2.48	139.46
840S	110CW	744.58	2.77	139.77
780S	1100W	744.52	2.74	139.69
720S	1100W	744.53	2.58	139.50
660S	1100W	744.56	2.46	139.37
600S	1100W	744.99	2.11	139.07
540S	1100W	741.48	2.98	139.25
480S	110CW	743.15	2.58	139.13
420S	1100W	742.74	2.94	139.40
360S	110CW	745.59	2.46	139.43
300S	110CW	747.76	1.99	139.34
240S	110CW	750.16	1.46	139.21
180S	1100W	755.23	0.30	138.97
120S	1100W	751.88	1.12	139.12
60S	1100W	755.39	0.29	138.90
60N	110CW	757.23	-0.21	138.71
120N	1100W	761.08	-0.85	138.79
180N	110CW	758.72	-0.23	138.95
240N	1100W	759.48	-0.25	139.11
300N	1100W	768.89	-2.19	138.94
360N	1100W	771.11	-2.64	138.94
420N	110CW	772.87	-2.96	139.01
480N	1100W	778.28	-4.05	139.02
540N	110CW	791.07	-6.64	138.91
600N	1100W	795.46	-7.58	138.90
660N	1100W	799.06	-8.27	139.01
720N	110CW	812.32	-11.19	138.66
780N	1100W	824.37	-13.64	138.51
840N	110CW	838.88	-16.70	138.14
900N	110CW	847.79	-18.48	137.96
960N	1100W	855.65	-20.02	137.84
1020N	110CW	867.57	-22.58	137.46
1080N	110CW	874.39	-23.91	137.34
1140N	1100W	880.24	-25.15	137.11
1200N	1100W	885.97	-26.20	137.07
1260N	110CW	889.68	-27.03	136.91
1320N	110CW	891.58	-27.53	136.83
1380N	1100W	893.52	-28.26	136.69
1440N	1100W	902.17	-30.12	136.69
1500N	110CW	918.99	-33.78	136.35
1560N	1100W	943.07	-38.74	135.99
1620N	110CW	961.65	-42.56	135.60
1680N	110CW	967.90	-43.63	135.40
1740N	110CW	971.65	-44.45	135.13
1800N	1100W	970.13	-44.36	134.92
1860N	110CW	975.76	-45.59	134.80
1920N	110CW	985.63	-47.91	134.39
1980N	110CW	1007.37	-52.42	134.00
2040N	110CW	1025.05	-56.04	133.78
1500S	900W	730.42	0.25	135.22
1440S	900W	725.51	1.16	135.07
1380S	900W	716.65	3.58	135.89
1320S	900W	730.50	0.75	135.48
1260S	900W	731.59	1.32	136.21
1200S	900W	734.43	1.35	136.75
1170S	900W	734.74	1.44	136.87

1140S	900W	737.15	1.66	137.53
1110S	900W	738.34	1.80	137.87
1080S	900W	739.07	2.05	138.24
1050S	900W	740.40	2.18	138.59
1020S	900W	741.97	2.25	138.94
990S	900W	743.25	2.21	139.13
960S	900W	743.70	2.37	139.34
930S	900W	743.59	2.59	139.52
900S	900W	743.66	2.68	139.61
870S	900W	744.10	2.70	139.67
840S	900W	744.48	2.53	139.56
810S	900W	744.32	2.82	139.77
780S	900W	745.39	2.69	139.81
750S	900W	745.49	2.70	139.82
720S	900W	744.52	3.09	140.01
690S	900W	743.85	3.34	140.14
660S	900W	747.43	2.67	140.13
630S	900W	755.78	1.22	140.24
600S	900W	761.01	0.00	139.99
570S	900W	760.70	-0.25	139.62
540S	900W	760.40	-0.40	139.39
510S	900W	760.19	-0.42	139.26
480S	900W	758.73	-0.22	139.15
450S	900W	758.20	-0.01	139.23
420S	900W	759.13	-0.24	139.15
390S	700W	835.39	-16.97	138.94
360S	700W	827.56	-15.48	138.94
330S	700W	814.34	-13.14	138.71
300S	700W	803.04	-11.27	138.41
270S	700W	793.81	-9.40	138.53
240S	700W	788.93	-8.32	138.80
210S	700W	782.83	-7.65	138.72
180S	700W	762.64	-3.73	138.29
150S	700W	739.16	0.56	137.96
120S	700W	724.43	2.44	136.83
90S	700W	719.53	2.91	136.05
60S	700W	718.41	3.05	135.76
30S	700W	720.50	2.78	135.74
0S	700W	715.84	4.06	136.10
270S	700W	714.69	4.64	136.43
240S	700W	720.05	3.98	136.70
210S	700W	719.61	4.93	137.58
180S	700W	722.92	5.33	138.61
150S	700W	731.19	4.28	139.11
120S	700W	743.33	2.40	139.57
90S	700W	744.93	2.56	139.91
60S	700W	745.17	2.62	139.92
30S	700W	744.91	2.63	139.80
0S	700W	741.54	3.11	139.61
270S	700W	742.00	3.47	140.03
240S	700W	746.56	2.99	140.39
210S	700W	751.36	2.08	140.36
180S	700W	753.42	1.68	140.33
150S	700W	760.81	0.22	140.27
120S	700W	760.50	0.29	140.21
90S	700W	758.57	0.38	139.87
60S	700W	757.16	0.54	139.73
30S	700W	757.51	0.27	139.49
0S	700W	758.86	-0.05	139.40
270S	700W	759.53	-0.14	139.42

120S	70CW	761.00	-0.44	139.38
60S	70CW	763.18	-0.93	139.30
1286S	50CW	712.46		
1260S	50CW	712.94	5.48	136.87
1200S	50CW	713.30	6.23	137.70
1140S	50CW	713.26	7.08	138.52
1080S	50CW	713.12	7.94	139.42
1020S	50CW	726.53	5.69	139.65
960S	50CW	732.05	4.86	139.84
900S	50CW	741.18	3.11	139.82
840S	50CW	741.48	3.14	139.79
780S	50CW	744.46	2.75	139.92
720S	50CW	743.52	3.04	139.95
660S	50CW	745.43	3.08	140.33
600S	50CW	745.59	3.30	140.54
540S	50CW	749.43	2.39	140.33
480S	50CW	749.92	2.27	140.28
420S	50CW	751.82	1.86	140.21
360S	50CW	753.35	1.49	140.11
300S	50CW	755.50	0.73	139.74
240S	50CW	758.28	2.20	139.70
180S	50CW	761.13	-0.31	139.72
120S	50CW	764.39	-0.99	139.63
60S	50CW	767.85	-1.59	139.68
1380S	30CW	715.32	4.89	137.16
1320S	30CW	715.70	4.50	136.66
1260S	30CW	716.41	4.30	136.50
1200S	30CW	716.36	4.30	136.42
1020S	30CW	714.61	7.78	139.49
960S	30CW	720.11	7.16	139.88
900S	30CW	725.90	6.35	140.16
840S	30CW	729.11	6.07	140.49
780S	30CW	735.84	4.45	140.12
720S	30CW	742.39	3.34	140.22
660S	30CW	744.77	2.97	140.23
600S	30CW	744.10	3.50	140.58
540S	30CW	744.64	3.43	140.60
480S	30CW	747.16	3.29	140.94
420S	30CW	757.94	1.06	140.75
360S	30CW	759.17	0.48	140.33
300S	30CW	760.62	-0.11	139.98
240S	30CW	763.14	-0.62	139.93
180S	30CW	766.22	-1.30	139.82
120S	30CW	767.71	-1.55	139.86
60S	30CW	770.83	-2.06	139.94
1260S	0CW	717.10	3.90	136.31
1200S	0CW	717.13	4.16	136.50
1140S	0CW	716.71	4.50	136.70
1080S	0CW	717.48	4.66	136.98
1020S	0CW	716.47	5.38	137.48
960S	0CW	716.19	5.99	138.01
900S	0CW	716.46	6.40	138.46
840S	0CW	714.79	8.70	140.50
780S	0CW	720.19	7.83	140.63
720S	0CW	723.24	7.23	140.62
660S	0CW	728.78	6.26	140.68
600S	0CW	732.15	5.40	140.45
540S	0CW	742.58	3.32	140.31
480S	0CW	745.55	2.91	140.43
420S	0CW	747.95	3.00	140.96

48CS	CCW	757.12	1.18	140.87
420S	CCW	765.61	-0.30	141.00
360S	COW	769.08	-0.93	140.97
300S	COW	768.65	-1.16	140.62
240S	CCW	775.03	-2.62	140.36
180S	COW	776.33	-2.88	140.32
120S	CCW	778.45	-3.36	140.23
60S	CCW	786.39	-4.93	140.14
1980S	30CF	749.98	-3.86	135.38
1920S	30CF	746.57	-3.27	135.28
1860S	30CF	739.87	-1.99	135.25
1800S	30CF	736.68	-0.98	135.62
1740S	30CF	733.65	-0.23	135.76
1680S	30CF	729.09	0.93	136.02
1620S	30CF	719.68	3.31	136.65
1560S	30CF	716.55	4.04	136.74
1500S	30CF	715.25	4.55	137.00
1440S	30CF	716.63	4.29	136.84
1380S	30CF	716.85	4.09	136.62
1320S	30CF	716.16	4.22	136.56
1260S	30CF	716.44	4.03	136.38
1200S	30CF	719.56	3.37	136.25
1140S	30CF	718.34	3.81	136.41
1080S	30CF	719.67	3.81	136.63
1020S	30CF	720.28	4.06	136.97
960S	30CF	720.21	4.52	137.39
900S	30CF	716.19	6.07	138.19
840S	30CF	730.59	5.56	140.42
780S	30CF	744.96	2.92	140.62
720S	30CF	744.63	3.01	140.53
660S	30CF	745.33	2.78	140.36
600S	30CF	744.07	3.13	140.39
540S	30CF	743.44	3.51	140.62
480S	30CF	744.89	3.50	140.88
420S	30CF	745.86	3.22	140.80
360S	30CF	746.82	2.78	140.63
240S	30CF	755.37	1.25	140.72
180S	30CF	772.53	-2.44	140.36
120S	30CF	772.10	-2.04	140.55
60S	30CF	772.87	-2.05	140.65
1980S	60CF	764.05	-6.31	135.73
1920S	60CF	762.58	-6.14	135.62
1860S	60CF	759.79	-5.68	135.54
1800S	60CF	757.78	-5.40	135.47
1740S	60CF	751.74	-4.31	135.42
1680S	60CF	748.12	-3.67	135.42
1620S	60CF	739.73	-2.14	135.26
1560S	60CF	723.69	1.20	135.44
1500S	60CF	715.45	3.02	135.59
1440S	60CF	714.73	3.46	135.76
1380S	60CF	714.57	3.64	135.81
1320S	60CF	716.77	3.18	135.71
1260S	60CF	720.49	2.30	135.50
1200S	60CF	716.06	3.57	135.88
720S	60CF	714.71	8.77	140.62
660S	60CF	715.03	8.85	140.75
600S	60CF	716.13	8.54	140.66
540S	60CF	716.08	8.60	140.74
480S	60CF	733.50	5.06	140.46
420S	60CF	735.52	4.73	140.48

360S	600E	726.37	6.47	140.45
300S	600E	727.52	5.91	140.22
240S	600E	730.60	5.26	140.31
240S	600E	730.98	5.26	140.58
180S	600E	762.04	-0.31	140.89
120S	600E	775.41	-2.58	141.22
60S	600E	780.52	-3.44	141.16
60N	600E	793.57	-6.22	140.99
120N	600E	811.86	-9.96	140.88
180N	600E	834.00	-14.35	140.86
240N	600E	836.02	-14.36	140.79
300N	600E	828.13	-12.80	140.43
360N	600E	826.82	-12.53	140.33
420N	600E	831.19	-13.40	140.23
480N	600E	833.10	-13.77	140.19
540N	600E	830.54	-13.54	140.00
600N	600E	833.27	-14.25	139.87
660N	600E	852.93	-13.49	139.31
720N	600E	859.93	-19.71	139.35
780N	600E	859.76	-19.57	139.34
840N	600E	861.57	-19.97	139.24
900N	600E	865.07	-20.68	139.20
960N	600E	868.48	-21.41	139.16
1020N	600E	872.27	-22.46	139.14
1080N	600E	880.14	-24.05	138.98
1140N	600E	891.23	-26.31	138.94
1200N	600E	904.21	-28.98	138.80
1260N	600E	919.78	-32.18	138.57
1320N	600E	930.09	-34.33	138.35
1380N	600E	942.58	-36.51	138.52
1440N	600E	953.27	-38.90	138.12
1500N	600E	962.46	-40.65	138.08
1560N	600E	974.41	-43.09	137.90
1620N	600E	982.96	-45.14	137.49
1680N	600E	990.56	-46.85	137.30
1740N	600E	998.04	-48.44	137.30
1800N	600E	1010.51	-51.35	136.87
1860N	600E	1026.00	-54.74	136.54
1920N	600E	1037.04	-57.14	136.26
1980N	600E	1056.28	-61.37	135.59
2040N	600E	1073.78	-65.15	134.94
2100N	600E	1036.26	-67.76	134.47
2160N	600E	1101.01	-70.89	133.92
1980S	900E	773.31	-7.75	136.35
1920S	900E	766.18	-6.59	136.10
1860S	900E	759.65	-5.63	135.76
1800S	900E	754.81	-5.14	135.28
1740S	900E	751.24	-4.58	135.11
1680S	900E	747.54	-4.04	134.94
1620S	900E	750.64	-3.12	136.64
1560S	900E	729.35	-0.65	134.84
1500S	900E	715.02	2.20	134.97
1380S	900E	716.82	2.20	135.05
1320S	900E	716.76	2.37	135.09
1260S	900E	716.70	2.61	135.23
1200S	900E	716.71	2.82	135.40
1140S	900E	716.58	3.12	135.62
1080S	900E	716.88	3.16	135.68
1020S	900E	715.52	3.81	136.03
960S	900E	715.94	4.30	136.55

900S	900E	715.04	5.07	137.13
840S	900E	714.31	5.92	137.82
780S	900E	718.06	5.71	138.28
720S	900E	719.98	5.77	138.68
660S	900E	721.17	6.14	139.24
600S	900E	717.47	7.60	139.57
540S	900E	717.85	7.86	140.28
480S	900E	718.26	8.14	140.62
420S	900E	718.45	8.24	140.76
360S	900E	718.63	8.04	140.62
300S	900E	718.58	8.09	140.73
240S	900E	721.16	7.48	140.74
180S	900E	724.73	6.46	140.58
120S	900E	733.06	4.65	140.55
60S	900E	760.92	-0.23	140.81
1980S	1200E	790.07		
1920S	1200E	730.84		
1860S	1200E	772.02		
1800S	1200E	764.83		
1740S	1200E	757.85		
1680S	1200E	752.91		
1620S	1200E	749.40		
1560S	1200E	739.59		
1500S	1200E	716.08	1.77	134.84
1380S	1200E	717.18	1.59	134.59
1320S	1200E	716.92	1.87	134.72
1260S	1200E	715.47	1.91	134.43
660S	1200E	718.36	5.36	138.04
600S	1200E	722.60	5.04	138.54
540S	1200E	724.19	5.18	138.94
480S	1200E	718.80	7.05	139.76
420S	1200E	718.27	7.76	140.36
360S	1200E	719.64	7.63	140.53
300S	1200E	725.19	6.53	140.49
240S	1200E	732.25	5.00	140.33
180S	1200E	747.92	1.47	139.84
120S	1200E	750.34	1.22	140.02
60S	1200E	749.95	1.76	140.35
60N	1200E	753.01	1.27	140.39
120N	1200E	761.77	-0.27	140.48
180N	1200E	764.88	-0.75	140.58
240N	1200E	768.95	-1.76	140.34
300N	1200E	776.99	-3.22	140.40
360N	1200E	778.79	-3.47	140.58
420N	1200E	783.96	-4.72	140.40
480N	1200E	800.93	-8.18	140.12
540N	1200E	820.80	-11.93	140.23
600N	1200E	827.84	-13.06	140.32
660N	1200E	822.04	-11.95	140.36
720N	1200E	823.62	-12.47	139.85
780N	1200E	833.18	-14.36	139.78
840N	1200E	841.04	-15.87	139.80
900N	1200E	850.61	-17.89	139.61
960N	1200E	862.30	-20.39	139.32
1020N	1200E	872.73	-22.48	139.19
1080N	1200E	878.30	-43.55	119.09
1140N	1200E	882.56	-24.39	139.02
1200N	1200E	886.50	-25.25	138.93
1260N	1200E	892.26	-26.38	138.98
1320N	1200E	902.26	-28.55	138.80

1380N	1200E	913.29	-30.90	138.62
1440N	1200E	925.03	-33.36	138.45
1500N	1200E	933.43	-35.07	138.42
1560N	1200E	941.47	-36.94	138.22
1620N	1200E	954.54	-39.86	137.95
1680N	1200E	968.62	-42.95	137.73
1740N	1200E	983.79	-46.01	137.74
1800N	1200E	1001.08	-49.78	137.37
1860N	1200E	1026.59	-55.08	137.00
1920N	1200E	1042.68	-58.43	136.66
1980N	1200E	1058.88	-61.93	136.13
2040N	1200E	1072.24	-64.53	136.03
2100N	1200E	1087.47	-67.98	135.47
2160N	1200E	1101.30	-71.09	134.98
960S	1500E	715.42	3.22	135.73
900S	1500E	716.76	3.32	136.06
840S	1500E	716.03	3.87	136.43
780S	1500E	716.38	4.22	136.82
720S	1500E	716.12	4.77	137.28
660S	1500E	716.58	5.24	137.80
600S	1500E	716.79	5.86	138.43
540S	1500E	716.07	6.69	139.09
420S	1500E	724.63	6.28	140.26
360S	1500E	731.64	5.04	140.33
300S	1500E	737.41	3.86	140.21
240S	1500E	748.90	1.71	140.24
180S	1500E	751.51	1.24	140.22
120S	1500E	752.10	1.12	140.20
60S	1500E	755.41	0.51	140.17
1500S	1800E	743.05	-3.11	135.46
1440S	1800E	730.76	-1.04	135.02
1380S	1800E	719.61	1.16	135.04
1320S	1800E	719.95	0.85	134.67
1260S	1800E	717.89	1.25	134.51
1200S	1800E	719.61	0.79	134.35
1140S	1800E	720.63	0.76	134.44
1080S	1800E	719.91	1.15	134.66
1020S	1800E	719.27	1.50	134.86
960S	1800E	718.35	2.00	135.17
900S	1800E	718.69	2.05	135.25
900S	1650E	718.42	2.55	135.77
840S	1650E	717.83	2.99	135.96
780S	1650E	717.94	3.31	136.27
720S	1650E	718.16	3.68	136.66
66S	1650E	717.44	4.20	137.00
600S	1650E	718.15	4.62	137.49
540S	1650E	716.77	5.34	137.96
300S	1800E	724.44	5.82	139.82
240S	1800E	746.86	1.80	140.07
180S	1800E	752.41	0.58	139.87
120S	1800E	751.53	1.11	140.20
60S	1800E	754.16	0.71	140.28
60N	1800E	759.09	-0.60	139.89
120N	1800E	763.91	-1.58	139.82
180N	1800E	774.88	-3.80	139.66
240N	1800E	783.60	-5.43	139.78
300N	1800E	788.44	-6.34	139.77
360N	1800E	791.56	-6.87	139.82
420N	1800E	793.10	-7.12	139.83
480N	1800E	788.62	-5.92	140.06

540N	1800E	776.65	-3.54	140.05
600N	1800E	773.65	-3.02	140.07
660N	1800E	778.61	-4.06	140.06
720N	1800E	784.43	-5.25	140.09
780N	1800E	796.56	-7.58	140.06
840N	1800E	812.89	-10.76	140.02
900N	1800E	823.20	-12.69	140.00
960N	1800E	829.78	-13.98	139.93
1020N	1800E	838.22	-15.64	139.84
1080N	1800E	847.37	-17.42	139.82
1140N	1800E	859.53	-19.37	139.67
1200N	1800E	871.67	-22.27	139.53
1260N	1800E	878.60	-23.73	139.33
1320N	1800E	886.12	-25.31	139.16
1380N	1800E	893.79	-27.00	138.89
1440N	1800E	903.89	-29.19	138.65
1500N	1800E	910.93	-30.65	138.61
1560N	1800E	919.58	-32.46	138.60
1620N	1800E	930.13	-34.77	138.48
1680N	1800E	940.60	-37.00	138.41
1740N	1800E	954.58	-40.13	138.11
1800N	1800E	974.08	-44.23	137.76
1860N	1800E	993.58	-48.25	137.48
1920N	1800E	1007.72	-51.31	137.09
1980N	1800E	1015.07	-53.00	137.08
2040N	1800E	1026.18	-55.70	136.64
2100N	1800E	1032.93	-61.28	136.06
2160N	1800E	1070.87	-64.86	135.78
2220N	1800E	1086.63	-68.18	135.41
480S	2100E	715.74	4.68	137.17
420S	2100E	715.01	5.17	137.49
360S	2100E	716.54	5.42	138.07
300S	2100E	715.94	6.38	138.96
240S	2100E	715.85	7.14	139.72
180S	2100E	717.96	7.19	140.29
120S	2100E	731.21	4.46	140.04
60S	2100E	747.78	1.04	139.72
600S	2450E	718.37	2.04	135.13
540S	2450E	719.09	2.19	135.34
480S	2450E	719.80	2.32	135.61
420S	2450E	718.89	2.93	135.97
360S	2450E	719.89	3.28	136.49
300S	2450E	720.73	3.38	136.70
240S	2450E	720.80	4.00	137.32
180S	2450E	720.14	4.69	137.84
120S	2450E	720.65	5.35	138.58
60S	2450E	718.44	6.33	139.12
60N	2450E	717.44	7.06	139.81
120N	2450E	736.40	3.44	139.74
180N	2450E	750.75	0.41	139.59
240N	2450E	741.57	2.50	139.67
300N	2450E	744.96	1.86	139.64
360N	2450E	753.73	0.17	139.57
420N	2450E	760.57	-1.24	139.43
480N	2450E	765.07	-2.01	139.45
540N	2450E	762.70	-1.42	139.52
600N	2450E	760.98	-1.28	139.33
660N	2450E	762.12	-1.42	139.44
720N	2450E	764.37	-2.00	139.39
780N	2450E	772.10	-3.53	139.41

840N	2450E	778.42	-4.90	139.40
900N	2450E	791.16	-7.67	139.17
960N	2450E	812.51	-12.23	138.81
1020N	2450E	822.22	-13.71	139.16
1080N	2450E	824.88	-14.21	139.12
1140N	2450E	834.57	-16.23	139.07
1200N	2450E	853.82	-20.19	138.83
1260N	2450E	870.76	-23.42	138.86
1320N	2450E	881.33	-25.38	138.84
1380N	2450E	890.98	-27.41	138.58
1440N	2450E	901.65	-29.58	138.39
1500N	2450E	922.63	-33.87	137.98
1560N	2450E	930.47	-35.29	137.90
1620N	2450E	930.40	-35.33	137.67
1680N	2450E	933.94	-36.13	137.58
1740N	2450E	946.26	-38.69	137.41
1800N	2450E	954.47	-40.51	137.20
1860N	2450E	970.99	-43.90	136.94
1920N	2450E	975.47	-44.96	136.74
1980N	2450E	982.72	-46.58	136.63
2040N	2450E	988.52	-48.17	136.45
2100N	2450E	1002.47	-51.26	136.38
2160N	2450E	1020.14	-55.06	136.23
2220N	2450E	1043.56	-59.81	136.05
540S	2750E	716.59	2.47	135.20
480S	2750E	716.42	2.85	135.52
420S	2750E	716.46	3.17	135.82
360S	2750E	716.53	3.49	136.11
300S	2750E	716.26	4.11	136.65
240S	2750E	715.94	4.69	137.15
180S	2750E	716.17	5.24	137.70
120S	2750E	716.29	5.79	138.25
60S	2750E	716.13	6.36	138.76
240N	2750E	717.96	6.47	139.23
300N	2750E	717.75	6.89	139.74
360N	2750E	724.06	5.82	139.97
420N	2750E	740.82	2.24	139.56
480N	2750E	752.93	0.13	139.79
540N	2750E	770.11	-3.38	139.62
600N	2750E	773.05	-3.72	139.65
660N	2750E	776.04	-4.31	139.47
720N	2750E	771.38	-3.31	139.39
780N	2750E	765.57	-2.27	139.25
840N	2750E	766.46	-2.62	139.06
900N	2750E	768.34	-2.93	139.14
960N	2750E	771.20	-3.40	139.27
1020N	2750E	776.18	-4.46	139.27
1080N	2750E	782.59	-6.01	139.07
1140N	2750E	791.96	-7.90	139.12
1200N	2750E	804.60	-10.41	139.13
1260N	2750E	820.65	-13.73	138.96
1320N	2750E	835.41	-16.51	139.09
1380N	2750E	850.33	-19.66	138.85
1440N	2750E	867.23	-22.93	138.83
1500N	2750E	879.72	-25.25	138.85
1560N	2750E	894.27	-28.30	138.55
1620N	2750E	909.43	-31.64	138.04
1680N	2750E	935.80	-37.04	138.08
1740N	2750E	932.37	-35.85	137.81
1800N	2750E	934.08	-36.26	137.54

1860N	2750E	940.35	-37.51	137.48
1920N	2750E	950.24	-39.53	137.39
1980N	2750E	962.20	-42.11	137.07
2040N	2750E	974.14	-44.64	136.80
2100N	2750E	980.52	-45.96	136.67
2160N	2750E	986.14	-47.50	136.27
2220N	2750E	993.69	-49.30	136.11
1260S	3050E	716.33	0.57	135.26
1200S	3050E	716.51	0.56	134.64
1140S	3050E	716.29	0.74	134.37
1080S	3050E	718.64	0.31	134.13
1020S	3050E	720.26	0.17	134.13
960S	3050E	720.52	0.21	134.13
900S	3050E	720.30	0.55	134.34
840S	3050E	717.88	1.05	134.34
780S	3050E	721.41	0.33	134.24
720S	3050E	722.21	0.21	134.23
660S	3050E	721.44	0.52	134.35
600S	3050E	722.75	0.31	134.36
540S	3050E	722.31	0.59	134.52
480S	3050E	721.54	1.02	134.76
420S	3050E	722.52	1.04	134.95
360S	3050E	722.03	1.44	135.21
300S	3050E	722.91	1.45	135.25
240S	3050E	724.59	1.59	135.79
180S	3050E	725.19	1.99	136.27
120S	3050E	724.21	2.90	136.96
60S	3050E	724.74	3.31	137.49
120N	3050E	718.65	6.47	139.46
180N	3050E	718.33	6.74	140.19
240N	3050E	718.50	4.65	138.09
300N	3050E	751.40	0.33	139.94
360N	3050E	769.89	-3.37	139.94
420N	3050E	768.78	-2.62	140.08
480N	3050E	771.06	-3.04	139.84
540N	3050E	775.39	-3.94	139.66
600N	3050E	773.96	-3.63	139.63
660N	3050E	779.79	-4.81	139.50
720N	3050E	779.94	-5.07	139.24
780N	3050E	785.27	-5.96	139.37
840N	3050E	781.05	-5.20	139.31
900N	3050E	731.38	-5.76	138.91
960N	3050E	789.41	-7.30	139.01
1020N	3050E	797.25	-8.96	138.99
1080N	3050E	810.64	-11.71	138.92
1140N	3050E	827.95	-15.15	138.91
1200N	3050E	837.45	-17.23	138.69
1260N	3050E	852.94	-20.28	138.68
1320N	3050E	862.51	-22.21	138.60
1380N	3050E	878.84	-25.60	138.41
1440N	3050E	893.71	-28.65	138.25
1500N	3050E	906.87	-31.24	138.17
1560N	3050E	924.60	-34.72	138.13
1620N	3050E	935.14	-36.86	137.91
1680N	3050E	946.39	-39.16	137.78
1740N	3050E	963.88	-42.73	137.63
1800N	3050E	990.61	-48.59	136.92
1860N	3050E	996.02	-49.07	137.16
1920N	3050E	1007.28	-51.61	136.58
1980N	3050E	1006.23	-51.33	136.32

2040N	3050E	1009.44	-52.17	136.06
2100N	3050E	1019.00	-54.16	136.01
2160N	3050E	1032.69	-57.14	135.74
2220N	3050E	1048.53	-60.37	135.66
60N	3350E	714.06	5.84	138.08
120N	3350E	717.51	5.93	138.88
180N	3350E	722.04	5.42	139.33
240N	3350E	736.63	2.86	139.58
480N	3350E	752.71	-0.12	139.68
540N	3350E	755.53	-0.12	140.12
600N	3350E	763.23	-1.56	140.07
660N	3350E	768.57	-2.64	139.98
720N	3350E	771.76	-3.15	140.04
780N	3350E	781.96	-5.06	139.98
840N	3350E	789.50	-6.60	139.80
900N	3350E	802.09	-9.25	139.62
960N	3350E	795.52	-8.07	139.33
1020N	3350E	786.84	-6.78	138.96
1080N	3350E	786.90	-6.94	138.81
1140N	3350E	787.58	-7.29	138.66
1200N	3350E	789.84	-7.76	138.72
1260N	3350E	793.14	-8.56	138.72
1320N	3350E	805.05	-10.98	138.57
1380N	3350E	818.53	-13.63	138.49
1440N	3350E	827.93	-15.55	138.52
1500N	3350E	835.79	-17.24	138.45
1560N	3350E	842.45	-18.86	138.32
1620N	3350E	850.67	-20.84	138.10
1680N	3350E	871.98	-25.02	137.93
1740N	3350E	885.51	-27.76	137.88
1800N	3350E	903.42	-31.17	137.87
1860N	3350E	915.73	-33.72	137.69
1920N	3350E	931.77	-36.95	137.61
1980N	3350E	950.64	-40.83	137.32
2040N	3350E	970.54	-44.88	136.91
2100N	3350E	989.29	-48.56	136.61
2160N	3350E	1005.34	-51.71	136.34
2220N	3350E	1016.40	-53.93	136.15
360S	3650E	718.88	1.07	134.41
300S	3650E	718.44	1.33	134.56
240S	3650E	718.90	1.44	134.73
180S	3650E	719.19	1.64	134.95
120S	3650E	719.55	1.93	135.29
60S	3650E	718.67	2.70	135.87
120N	3650E	719.13	3.46	136.76
180N	3650E	719.52	4.13	137.49
240N	3650E	719.13	4.73	138.10
300N	3650E	716.38	5.82	138.91
360N	3650E	737.03	3.00	139.84
420N	3650E	753.67	-0.44	139.72
480N	3650E	764.05	-2.22	139.85
540N	3650E	773.88	-3.86	140.10
600N	3650E	780.21	-4.98	140.20
660N	3650E	792.74	-7.32	140.13
720N	3650E	795.90	-7.84	140.04
780N	3650E	802.28	-9.37	139.60
840N	3650E	806.28	-10.18	139.46
900N	3650E	800.99	-8.95	139.58
960N	3650E	796.59	-8.34	139.27
1020N	3650E	795.76	-8.29	139.15

1080N	3650E	801.34	-9.51	138.93
1140N	3650E	806.04	-10.50	138.82
1200N	3650E	808.66	-11.24	138.56
1260N	3650E	810.26	-11.80	138.30
1320N	3650E	807.36	-11.70	137.94
1380N	3650E	810.22	-12.52	137.83
1440N	3650E	819.40	-14.55	137.73
1500N	3650E	834.36	-17.51	137.74
1560N	3650E	851.16	-20.92	137.77
1620N	3650E	863.86	-23.23	138.00
1680N	3650E	872.35	-25.15	137.83
1740N	3650E	890.35	-28.77	137.73
1800N	3650E	902.98	-31.34	137.66
1860N	3650E	919.38	-34.62	137.49
1920N	3650E	935.04	-37.88	137.26
1980N	3650E	950.55	-40.90	137.17
2040N	3650E	964.69	-43.65	137.14
2100N	3650E	978.41	-46.39	137.07
2160N	3650E	995.98	-50.12	136.70
2220N	3650E	1018.61	-54.76	136.31
1500S	1440W	731.36	-0.49	134.57
1500S	1380W	735.63	-1.31	134.53
1500S	1320W	734.89		
1500S	1260W	733.37	-0.66	134.75
1500S	1200W	731.61	-0.30	134.79
1500S	1080W	722.46	1.69	135.17
1500S	1020W	728.32	0.39	134.90
1500S	960W	732.80	-0.36	135.04
1200S	780W	724.36	3.43	136.92
1200S	720W	722.11	4.13	137.23
1200S	660W	713.09	6.46	137.92
1200S	600W	713.46	6.41	137.90
1200S	540W	714.66	5.95	137.64
1200S	240W	716.48	4.34	136.49
1200S	180W	716.33	4.14	136.28
1200S	120W	715.95	4.45	136.53
1200S	60W	716.25	4.43	136.58
1200S	60E	718.28	3.80	136.37
1200S	120E	719.14	3.46	136.21
1200S	180E	720.71	3.23	136.29
1200S	240E	720.42	3.21	136.23
1200S	360E	718.16	3.66	136.29
1200S	420E	716.53	3.94	136.28
1200S	480E	716.38	3.83	136.16
1200S	540E	714.95	3.95	136.03
BLO	6165W	797.43	-6.05	138.83
BLO	6150W	794.56	-5.91	138.44
RLC	6100W	791.32	-5.63	138.12
BLC	6050W	808.77	-9.44	137.66
BLO	6000W	814.94	-10.84	137.46
BLC	5950W	817.00	-11.30	137.41
BLO	5900W	816.86	-11.27	137.43
BLO	5850W	816.71	-11.27	137.41
RLC	5750W	817.11	-11.36	137.44
BLO	5700W	817.84	-11.61	137.35
BLO	5650W	810.34	-10.00	137.54
BLC	5600W	809.50	-9.91	137.48
BLO	5550W	807.12	-9.59	137.37
BLO	5500W	803.72	-9.05	137.28
BLO	5450W	801.75	-8.70	137.26

BLO	5400W	798.43	-7.99	137.66
BLO	5350W	796.74	-7.64	137.70
BLO	5300W	800.07	-8.42	137.57
BLO	5250W	806.65	-10.12	137.14
BLO	5200W	808.64	-10.82	136.84
BLO	5150W	804.71	-9.95	136.68
BLO	5100W	801.37	-9.64	136.37
BLO	5050W	798.70	-9.18	136.33
BLO	5000W	789.47	-7.06	136.69
BLC	4950W	783.09	-5.79	136.76
BLO	4900W	786.20	-6.82	136.35
BLO	4850W	786.51	-7.15	136.10
BLO	4800W	794.30	-9.42	135.04
BLO	4750W	793.72	-9.57	135.10
BLO	4700W	786.51	-7.97	135.33
BLC	4650W	772.06	-4.68	135.87
BLO	4600W	775.82	-5.69	135.59
BLO	4550W	775.48	-5.74	135.50
BLO	4500W	769.30	-4.55	135.52
BLO	4450W	762.23	-3.09	135.64
BLO	4400W	760.38	-2.76	135.64
BLO	4350W	768.55	-5.06	134.92
BLO	4300W	767.66	-4.99	134.92
BLO	4250W	768.29	-5.35	134.71
BLO	4200W	767.00	-5.09	134.75
BLO	4150W	763.20	-4.19	134.93
BLO	4100W	765.21	-4.68	134.88
BLO	4050W	760.89	-3.81	134.93
BLO	4000W	755.70	-2.47	135.29
BLO	3950W	754.39	-2.22	135.29
BLO	3900W	755.05	-2.47	135.18
BLC	3850W	752.12	-1.96	135.13
BLC	3800W	749.24	-1.54	135.01
BLO	3750W	745.89	-0.93	134.99
BLC	3700W	742.16	-0.31	134.92
BLO	3650W	741.73	-0.48	134.67
BLO	2600W	741.63	-0.70	134.42
BLC	3550W	742.22	-0.86	134.38
BLO	3500W	741.46	-0.75	134.36
BLO	3450W	740.94	-0.74	134.28
BLC	3400W	740.73	-0.75	134.25
BLO	3350W	740.59	-0.74	134.24
BLO	3300W	739.51	-0.49	134.30
BLO	3200W	737.82	-0.04	134.46
BLO	3150W	739.33	-0.21	134.60
BLC	3100W	738.88	-0.14	134.59
BLC	3050W	738.45	0.03	134.70
BLO	3000W	738.59	-0.02	134.69
BLC	2950W	736.35	0.48	134.78
BLO	2900W	737.79	0.28	134.86
BLO	2850W	738.76	0.05	134.83
BLO	2800W	738.12	0.24	134.92
BLO	2750W	737.68	0.37	134.99
BLO	2700W	736.55	0.68	135.11
BLC	2650W	737.54	0.33	134.96
BLO	2600W	733.70	1.07	134.99
BLO	2500W	730.36		
BLC	2450W	733.30	1.65	135.57
BLO	2400W	737.03	0.53	135.15
BLC	2350W	737.26	0.53	135.22

BLO	230CW	737.50	0.50	135.24
BLO	225CW	738.28	0.48	135.40
BLO	220CW	739.50	0.13	135.29
BLO	2150W	738.81	0.38	135.41
BLO	210CW	738.78	0.57	135.62
BLO	2050W	738.40	0.70	135.69
BLC	2000W	731.16	2.56	136.23
BLO	195CW	739.91	0.79	136.17
BLO	1900W	740.34	0.96	136.41
BLO	1850W	741.04	0.93	136.53
BLC	180CW	742.57	0.78	136.69
BLO	1750W	739.45	1.56	136.89
BLO	170CW	737.97	2.15	137.22
BLC	1650W	742.71	1.25	137.23
BLO	1600W	743.99	1.32	137.56
BLC	1550W	745.17	1.25	137.73
BLC	150CW	746.13	1.32	138.01
BLO	1450W	746.38	1.38	138.13
BLC	140CW	747.48	1.27	138.25
BLO	135CW	747.88	1.33	138.40
BLO	130CW	748.52	1.42	138.64
BLO	125CW	750.11	1.17	138.73
BLO	1200W	756.61	-0.36	138.47
BLC	115CW	757.71	-0.43	138.60
BLC	1100W	760.52	-1.06	138.53
BLO	1050W	760.53	-1.07	138.53
BLC	1000W	756.74	-0.02	138.86
BLO	95CW	759.14	-0.45	138.91
BLO	900W	761.04	-0.71	139.04
BLC	85CW	760.39	-0.44	139.21
BLO	800W	763.99	-1.22	139.14
BLO	750W	762.87	-0.75	139.44
BLC	70CW	764.23	-1.01	139.46
BLO	650W	766.52	-1.44	139.49
BLO	600W	768.11	-1.74	139.53
BLO	55CW	770.39	-2.17	139.57
BLO	500W	771.26	-2.20	139.71
BLO	450W	773.52	-2.70	139.68
BLO	400W	776.13	-3.23	139.68
BLO	350W	776.29	-3.17	139.81
BLO	300W	778.91	-3.79	139.72
BLO	250W	782.15	-4.46	139.69
BLO	200W	785.25	-5.02	139.75
BLO	150W	788.32	-5.71	139.67
BLO	100W	789.90	-5.86	139.84
BLO	50W	791.70	-6.33	139.74
BLC	0F	790.77	-6.05	139.86
BLO	50F	787.82	-5.42	139.93
BLC	100F	786.26	-5.13	139.97
BLC	150F	780.26	-3.84	140.20
BLO	200F	778.17	-3.21	140.45
BLO	250F	777.98	-3.15	140.51
BLO	300F	777.09	-2.84	140.70
BLO	350F	777.79	-3.07	140.63
BLO	400F	777.86	-3.05	140.71
BLO	450F	779.83	-3.46	140.70
BLO	500F	781.24	-3.73	140.75
BLC	550F	782.45	-3.84	140.94
BLO	600F	782.05	-3.74	141.06
BLO	650F	783.99	-4.16	141.06

BLO	700E	786.23	-4.60	141.11
BLO	750E	782.76	-4.04	141.03
BLO	800E	772.57	-2.37	140.77
BLO	850E	770.66	-1.93	140.88
BLO	900E	777.29	-3.22	140.92
BLO	950E	779.91	-3.68	141.19
BLO	1000E	772.37	-2.27	140.91
BLO	1050E	762.81	-0.91	140.48
BLO	1100E	752.24	1.22	140.38
BLO	1150E	751.43	1.41	140.31
BLO	1200E	751.16	1.44	140.22
BLO	1250E	753.58	0.87	140.07
BLO	1300E	750.74	1.44	140.10
BLO	1350E	753.38	0.85	140.04
BLO	1400E	755.98	0.33	140.01
BLO	1450E	758.26	-0.25	139.89
BLO	1500E	760.17	-0.07	140.47
BLO	1550E	761.78	-0.92	139.95
BLO	1600E	760.70	-0.80	139.89
BLO	1650E	761.09	-0.90	139.91
BLO	1700E	764.43	-1.51	139.96
BLO	1750E	765.66	-1.84	139.94
BLO	1800E	762.36	-1.11	140.07
BLO	1850E	756.84	-0.06	140.07
BLO	1900E	752.93	0.61	140.02
BLO	1950E	751.83	0.69	139.95
BLO	2000E	750.70	0.76	139.81
BLO	2050E	751.15	0.60	139.81
BLO	2100E	750.18	0.77	139.90
BLO	2150E	750.53	0.46	139.76
BLO	2200E	742.50	2.13	139.68
BLO	2250E	726.92	5.45	140.01
BLO	2300E	718.74	7.04	140.05
BLO	2350E	716.26	7.26	139.68
BLO	2400E	716.21	7.17	139.60
BLO	2450E	716.08	6.99	139.39
BLO	2500E	715.24	7.16	139.39
BLO	2550E	715.74	6.98	139.32
BLO	2600E	721.37	5.53	138.92
BLO	2650E	721.64	5.35	138.81
BLO	2700E	721.43	5.23	138.66
BLO	2750E	721.39	5.10	138.59
BLO	2800E	723.16	4.53	138.31
BLO	2850E	723.62	4.52	138.41
BLO	2900E	723.39	4.26	138.12
BLO	2950E	720.01	5.00	138.22
BLO	3000E	723.55	3.88	137.80
BLO	3050E	723.08	3.96	137.82
BLO	3100E	717.05	4.82	137.56
BLO	3150E	714.94	5.19	137.56
BLO	3200E	715.23	4.93	137.37
BLO	3250E	714.79	5.02	137.39
BLO	3300E	714.43	4.74	137.06
BLO	3350E	714.93	4.46	136.88
BLO	3400E	719.71	3.20	136.54
BLO	3450E	719.78	2.93	136.30
BLO	3500E	719.58	2.89	136.24
BLO	3550E	718.71	3.00	136.20
BLO	3600E	718.47	2.94	136.11
BLO	3650E	719.54	2.61	136.00

TENAS GRAVITY DATA
- EAST MAP SHEET -

780S	3950E	716.26	1.91	135.15
720S	3950E	717.51	1.58	135.00
660S	3950E	717.73	1.46	134.87
600S	3950E	715.84	1.94	134.97
540S	3950E	717.82	1.44	134.80
480S	3950E	717.74	1.46	134.77
420S	3950E	719.37	1.05	134.64
360S	3950E	719.67	0.95	134.55
300S	3950E	718.74	1.19	134.59
240S	3950E	719.89	1.03	134.62
180S	3950E	719.36	1.36	134.82
120S	3950E	719.56	1.84	135.21
60S	3950E	718.30	2.20	135.42
6CN	3950E	719.92	3.04	136.63
120N	3950E	719.66	3.83	137.55
180N	3950E	718.52	4.90	138.26
240N	3950E	724.11	4.21	139.30
420N	3950E	752.42	-1.07	139.23
480N	3950E	757.59	-3.60	139.65
540N	3950E	776.13	-4.93	139.77
600N	3950E	784.37	-6.28	139.97
660N	3950E	806.13	-10.31	140.04
720N	3950E	808.28	-10.42	140.08
780N	3950E	815.11	-11.72	139.94
840N	3950E	823.47	-13.26	139.97
900N	3950E	826.11	-14.16	139.44
960N	3950E	815.38	-12.03	139.29
1020N	3950E	811.27	-11.32	139.16
1080N	3950E	809.49	-11.01	139.07
1140N	3950E	817.44	-12.90	138.65
1200N	3950E	817.95	-13.29	138.35
1260N	3950E	814.10	-12.67	138.18
1290N	3950E	811.90	-12.29	138.16
1440N	3950E	811.24	-12.65	137.82
1500N	3950E	819.34	-14.38	137.81
1560N	3950E	829.77	-16.68	137.71
1620N	3950E	845.19	-19.85	137.63
1680N	3950E	859.84	-22.79	137.69
1740N	3950E	872.87	-25.59	137.53
1800N	3950E	892.54	-29.53	137.46
1860N	3950E	908.92	-32.84	137.37
1920N	3950E	927.60	-36.63	137.20
1980N	3950E	939.59	-39.06	137.02
2040N	3950E	953.17	-41.94	136.75
2100N	3950E	967.77	-45.29	136.24
2160N	3950E	986.79	-49.34	135.92

2220N	2950E	1005.61	-53.44	135.50
1020S	4250E	716.95	1.21	135.05
560S	4250E	717.74	1.22	135.05
900S	4250E	718.06	1.31	135.10
840S	4250E	718.24	1.36	135.10
780S	4250E	718.25	1.45	135.14
720S	4250E	718.37	1.35	135.02
660S	4250E	718.52	1.43	135.10
600S	4250E	718.16	1.51	135.07
540S	4250E	718.59	1.46	135.07
480S	4250E	718.20	1.57	135.06
420S	4250E	717.71	1.65	135.02
360S	4250E	717.84	1.63	134.98
300S	4250E	717.51	1.78	135.04
240S	4250E	718.19	1.65	135.02
180S	4250E	717.81	1.85	135.12
120S	4250E	717.92	1.99	135.26
60S	4250E	717.85	2.25	135.52
60N	4250E	716.78	3.60	136.73
120N	4250E	719.58	3.65	137.42
180N	4250E	720.10	4.23	138.41
240N	4250E	729.12	3.02	139.03
300N	4250E	754.90	-1.28	139.45
360N	4250E	770.53	-4.17	139.48
420N	4250E	768.43	-3.44	139.62
480N	4250E	772.98	-4.19	139.80
540N	4250E	778.88	-5.31	139.85
600N	4250E	792.74	-8.01	139.72
660N	4250E	805.80	-10.69	139.48
720N	4250E	828.47	-15.00	139.65
780N	4250E	834.83	-15.98	139.83
840N	4250E	821.63	-13.16	139.51
900N	4250E	818.46	-12.49	139.47
960N	4250E	811.86	-11.62	139.02
1020N	4250E	821.93	-14.02	138.51
1080N	4250E	824.78	-14.82	138.23
1140N	4250E	819.15	-13.79	138.12
1200N	4250E	812.71	-12.69	138.02
1260N	4250E	811.82	-12.55	138.05
1320N	4250E	813.88	-13.11	137.97
1380N	4250E	818.20	-14.16	137.90
1440N	4250E	822.04	-15.28	137.78
1500N	4250E	827.24	-16.75	137.67
1560N	4250E	851.09	-21.52	137.31
1620N	4250E	871.62	-25.47	137.35
1680N	4250E	872.90	-25.86	137.53
1740N	4250E	892.57	-29.95	137.24
1800N	4250E	919.19	-35.98	136.29
1860N	4250E	920.29	-36.01	136.55
1920N	4250E	930.65	-38.25	136.63
1980N	4250E	943.13	-41.29	136.50
2040N	4250E	958.21	-45.16	135.89
2100N	4250E	991.42	-52.19	135.03
2160N	4250E	1016.40	-57.29	134.39
2220N	4250E	1039.99	-62.23	133.56
60N	4550E	726.96	1.05	136.14
120N	4550E	728.79	1.30	136.77
180N	4550E	740.05	-0.29	137.31
240N	4550E	740.00	0.46	138.06
300N	4550E	745.78	0.04	138.75

360N	4550E	751.14	-0.43	139.34
420N	4550E	760.93	-2.11	139.54
480N	4550E	768.43	-3.54	139.53
540N	4550E	785.17	-6.78	139.47
600N	4550E	794.38	-8.36	139.56
660N	4550E	792.93	-7.83	139.64
720N	4550E	797.21	-8.56	139.63
780N	4550E	800.25	-9.38	139.31
840N	4550E	803.40	-10.01	139.23
900N	4550E	805.21	-10.52	139.01
960N	4550E	806.86	-10.96	138.85
1020N	4550E	810.68	-11.72	138.78
1080N	4550E	812.09	-12.19	138.56
1140N	4550E	813.19	-12.76	138.16
1200N	4550E	815.60	-13.43	137.96
1260N	4550E	817.78	-13.96	137.89
1320N	4550E	821.61	-14.76	137.90
1380N	4550E	827.22	-15.89	137.93
1440N	4550E	837.86	-18.16	137.68
1500N	4550E	847.59	-20.41	137.31
1560N	4550E	857.91	-22.74	136.96
1620N	4550E	860.24	-23.47	136.73
1680N	4550E	862.08	-24.40	136.40
1740N	4550E	863.73	-25.26	136.41
1800N	4550E	869.73	-26.17	137.46
1860N	4550E	877.23	-29.48	136.53
1920N	4550E	911.08	-36.34	136.02
1980N	4550E	947.34	-43.42	135.98
2040N	4550E	973.77	-48.82	135.65
2100N	4550E	1008.16	-55.93	134.82
2160N	4550E	1036.41	-61.53	134.14
2220N	4550E	1059.31	-65.93	133.61
1020S	4600E	718.02	1.14	135.27
960S	4600E	717.21	1.44	135.28
900S	4600E	716.92	1.62	135.30
840S	4600E	716.98	1.57	135.19
780S	4600E	718.92	1.14	135.08
720S	4600E	718.32	1.28	135.05
660S	4600E	717.70	1.54	135.17
600S	4600E	716.99	1.72	135.19
540S	4600E	716.66	1.71	135.07
480S	4600E	717.22	1.68	135.10
420S	4600E	716.72	1.86	135.15
360S	4600E	716.65	1.92	135.16
300S	4600E	716.81		
240S	4600E	719.45	1.59	135.32
180S	4600E	721.23	1.41	135.45
120S	4600E	721.74	1.41	135.53
60S	4600E	724.72	0.85	135.52
60N	4750E	727.11	3.14	138.41
120N	4750E	739.63	1.03	138.70
180N	4750E	749.43	-0.94	138.66
240N	4750E	750.93	-0.97	138.78
300N	4750E	752.39		
360N	4750E	755.21	-0.96	139.51
420N	4750E	760.53	-1.98	139.46
480N	4750E	763.76	-2.44	139.61
540N	4750E	766.16	-2.93	139.58
600N	4750E	768.98	-3.35	139.75
660N	4750E	774.96	-4.56	139.70

720N	475CE	792.24	-7.94	139.55
780N	475CE	803.43	-9.86	139.75
840N	475CE	798.90	-8.97	139.60
900N	475CE	800.77	-9.43	139.51
960N	475CE	805.82	-10.65	139.27
1020N	475CE	817.88	-13.15	139.05
1080N	475CE	826.78	-15.11	138.77
1140N	475CE	830.71	-16.27	138.28
1200N	475CE	835.43	-17.30	138.11
1260N	475CE	840.38	-18.39	137.93
1320N	475CE	842.80	-19.12	137.67
1380N	475CE	844.20	-19.26	137.86
1440N	475CE	851.54	-20.94	137.60
1500N	475CE	859.29	-22.87	137.23
1560N	475CE	867.99	-24.92	136.93
1620N	475CE	880.00	-27.40	136.76
1680N	475CE	892.60	-30.18	136.39
1740N	475CE	903.39	-32.45	136.28
1800N	475CE	907.63	-33.48	135.99
1860N	475CE	908.20	-33.99	135.93
1920N	475CE	910.08	-35.06	135.96
1980N	475CE	920.84	-37.70	136.12
2040N	475CE	944.03	-42.89	135.57
2100N	475CE	971.96	-48.94	134.85
2160N	475CE	1003.47	-55.60	133.94
2220N	475CE	1035.49	-62.45	132.77
1080S	490CE	716.23	0.86	134.76
1020S	490CE	717.05	0.74	134.74
960S	490CE	716.44	0.96	134.71
900S	490CE	716.76	0.92	134.70
840S	490CE	716.98	1.00	134.70
780S	490CE	717.25	0.91	134.60
720S	490CE	716.87	1.23	134.80
660S	490CE	718.05	1.19	134.97
600S	490CE	717.16	1.69	135.24
540S	490CE	716.66	2.03	135.45
480S	490CE	717.44	2.24	135.78
420S	490CE	716.39	2.76	136.06
360S	490CE	717.36	2.96	136.43
300S	490CE	718.96	3.07	136.80
240S	490CE	718.83	3.55	137.23
180S	490CE	718.41	3.93	137.53
120S	490CE	718.23	4.26	138.00
60S	490CE	721.29	3.72	138.02
180N	490CE	725.58	4.69	139.74
240N	490CE	732.96	3.15	139.55
300N	490CE	743.52	1.02	139.40
360N	490CE	751.21	-0.59	139.20
420N	490CE	752.76	-0.71	139.31
480N	490CE	755.72	-1.19	139.39
540N	490CE	759.62	-1.92	139.39
600N	490CE	762.98	-2.50	139.48
660N	490CE	769.14	-3.59	139.55
720N	490CE	776.43	-4.99	139.50
780N	490CE	780.69	-5.74	139.57
840N	490CE	785.42	-6.82	139.43
900N	490CE	791.48	-8.05	139.41
960N	490CE	795.41	-8.95	139.37
1020N	490CE	811.57	-12.42	138.91
1080N	490CE	826.53	-15.61	138.53

1140N	490CF	831.98	-16.97	138.14
1200N	490CF	840.46	-18.88	137.83
1260N	490CF	852.52	-21.47	137.51
1320N	490CF	861.20	-23.20	137.37
1380N	490CF	867.38	-24.63	137.08
1440N	490CF	873.24	-25.98	136.84
1500N	490CF	879.52	-27.47	136.57
1560N	490CF	885.76	-28.84	136.45
1620N	490CF	895.10	-30.86	136.30
1680N	490CF	904.68	-32.89	136.19
1740N	490CF	915.27	-35.06	136.13
1800N	490CF	925.62	-37.27	135.99
1860N	490CF	936.39	-39.59	135.89
1920N	490CF	943.94	-41.47	135.74
1980N	490CF	952.64	-43.54	135.80
2040N	490CF	963.97	-46.21	135.62
2100N	490CF	983.69	-50.49	135.34
2160N	490CF	1004.91	-55.39	134.41
2220N	490CF	1030.82	-60.96	133.76
300N	530CF	721.95	4.58	139.05
360N	530CF	741.01	1.13	139.20
420N	530CF	751.90	-0.89	139.24
480N	530CF	753.36	-0.99	139.30
540N	530CF	755.17	-1.43	139.14
600N	530CF	758.22	-2.01	139.12
660N	530CF	763.42	-2.92	139.21
720N	530CF	766.15	-3.52	139.15
780N	530CF	776.01	-5.97	138.59
840N	530CF	781.56	-7.38	138.27
900N	530CF	786.87	-8.37	138.32
960N	530CF	801.57	-11.18	138.30
1020N	530CF	808.63	-12.49	138.27
1080N	530CF	822.34	-15.58	137.74
1140N	530CF	825.54	-16.41	137.47
1200N	530CF	826.82	-17.00	137.23
1260N	530CF	832.97	-18.40	137.17
1320N	530CF	838.86	-19.76	137.11
1380N	530CF	853.24	-22.83	136.79
1440N	530CF	877.50	-27.86	136.38
1500N	530CF	894.12	-31.08	136.19
1560N	530CF	900.77	-32.31	136.07
1620N	530CF	905.49	-33.33	135.95
1680N	530CF	907.54	-33.98	135.92
1740N	530CF	912.88	-35.11	136.17
1800N	530CF	924.46	-37.74	136.02
1860N	530CF	943.11	-41.78	135.59
1920N	530CF	962.77	-45.90	135.21
1980N	530CF	979.54	-49.42	135.09
2040N	530CF	992.83	-52.30	135.09
2100N	530CF	1008.56	-55.91	134.47
2160N	530CF	1034.24	-61.39	134.07
2220N	530CF	1049.08	-64.52	133.88
60N	570CF	717.84	2.34	135.93
120N	570CF	717.54	2.83	136.32
180N	570CF	717.23	3.40	136.82
240N	570CF	717.23	3.97	137.40
300N	570CF	717.23	4.61	138.06
360N	570CF	717.11	5.23	138.70
420N	570CF	726.25	3.43	138.64
480N	570CF	731.47	2.39	138.63

540N	5700E	739.16	0.92	138.64
600N	5700E	753.73	-1.91	138.62
660N	5700E	757.06	-2.59	138.53
720N	5700E	760.88	-3.53	138.28
780N	5700E	767.28	-4.82	138.24
840N	5700E	778.93	-7.14	138.17
900N	5700E	788.10	-8.82	138.25
960N	5700E	797.74	-10.97	137.91
1020N	5700E	811.65	-13.95	137.61
1080N	5700E	816.52	-15.08	137.26
1140N	5700E	815.54	-14.92	137.10
1200N	5700E	817.46	-15.38	137.04
1260N	5700E	823.79	-16.97	136.75
1320N	5700E	829.28	-18.20	136.80
1380N	5700E	836.79	-19.81	136.87
1440N	5700E	864.24	-25.58	136.48
1500N	5700E	882.17	-29.20	136.41
1560N	5700E	893.63	-31.32	136.27
1620N	5700E	912.72	-35.06	136.26
1680N	5700E	919.48	-36.51	136.02
1740N	5700E	927.52	-38.30	135.83
1800N	5700E	943.37	-41.73	135.63
1860N	5700E	954.59	-44.45	135.21
1920N	5700E	972.09	-48.34	135.02
1980N	5700E	991.10	-52.19	135.10
2040N	5700E	1038.03	-56.03	134.70
2100N	5700E	1032.12	-61.20	134.40
2160N	5700E	1060.40	-67.12	134.02
2220N	5700E	1086.58	-72.58	133.38
60N	6100E	718.15	0.14	133.90
120N	6100E	718.45	0.39	134.18
180N	6100E	718.75	0.14	133.95
240N	6100E	719.06	0.86	134.71
300N	6100E	719.30	1.20	135.07
360N	6100E	720.03	1.23	135.22
420N	6100E	720.51	1.60	135.66
480N	6100E	717.22	2.75	136.20
540N	6100E	718.11	2.83	136.49
600N	6100E	717.28	3.41	137.06
660N	6100E	723.45	2.31	137.23
720N	6100E	736.47	-0.16	137.21
780N	6100E	754.58	-3.65	137.23
840N	6100E	768.38	-6.08	137.44
900N	6100E	778.44	-7.92	137.46
960N	6100E	784.96	-9.26	137.29
1020N	6100E	790.33	-10.12	137.41
960N	6100E	792.34	-10.55	137.34
1020N	6100E	800.42	-12.37	137.07
1080N	6100E	808.78	-14.13	136.93
1140N	6100E	820.22	-16.42	136.86
1200N	6100E	831.79	-18.89	136.61
1260N	6100E	842.71	-21.19	136.38
1320N	6100E	849.06	-22.73	136.02
1380N	6100E	854.20	-23.89	135.95
1440N	6100E	862.74	-25.79	135.87
1500N	6100E	883.43	-30.16	135.70
1560N	6100E	900.73	-33.79	135.67
1620N	6100E	915.16	-36.81	135.61
1680N	6100E	936.85	-41.29	135.52
1740N	6100E	958.03	-45.71	135.41

1800N	610CF	976.97	-49.69	135.17
1860N	610CE	995.80	-53.59	134.95
1920N	610CF	1012.64	-57.33	134.46
1980N	610CF	1026.71	-60.86	133.71
2040N	610CF	1053.38	-66.59	133.25
2100N	610CF	1075.95	-71.22	133.01
2160N	610CF	1094.74	-75.64	131.98
2220N	610CF	1125.37		
60N	650CF	718.70	-1.21	132.80
120N	650CF	718.58	-1.27	132.69
180N	650CF	719.78	-1.49	132.67
240N	650CF	718.41	-1.09	132.77
300N	650CF	718.21	-1.00	132.79
360N	650CF	720.71	-1.43	132.82
420N	650CF	721.89	-1.54	132.91
480N	650CF	717.67	-0.28	133.37
540N	650CF	718.12	-0.05	133.70
600N	650CF	717.47	0.62	134.31
660N	650CF	724.79	-0.60	134.50
720N	650CF	724.11	0.38	135.58
780N	650CF	730.76	-0.65	135.97
840N	650CF	742.51	-2.57	136.35
900N	650CF	767.68	-7.59	136.08
960N	650CF	776.79	-8.88	136.38
1020N	650CF	779.35	-9.29	136.29
1080N	650CF	779.85	-9.44	136.27
1140N	650CF	780.55	-9.69	136.41
1200N	650CF	785.24	-11.11	136.27
1260N	650CF	801.74	-15.01	135.64
1320N	650CF	828.53	-20.41	135.24
1380N	650CF	847.39	-24.25	134.88
1440N	650CF	863.12	-27.50	134.49
1500N	650CF	869.08	-28.75	134.15
60N	690CF	718.10		
120N	690CF	718.40	-1.47	132.56
180N	690CF	717.90	-1.47	132.45
240N	690CF	717.48	-1.52	132.27
300N	690CF	717.28	-1.09	132.64
360N	690CF	717.03	-1.39	132.27
420N	690CF	717.89	-1.33	132.47
480N	690CF	719.21	-1.20	132.84
540N	690CF	722.24	-1.34	133.27
600N	690CF	724.40	-1.69	133.33
660N	690CF	726.00	-1.59	133.79
720N	690CF	730.03	-1.87	134.34
780N	690CF	737.37	-2.65	135.01
840N	690CF	742.23	-3.21	135.45
900N	690CF	749.89	-4.43	135.73
960N	690CF	762.00	-6.72	135.76
1020N	690CF	771.93	-8.42	135.96
1080N	690CF	778.05	-9.34	136.24
1140N	690CF	785.07	-11.35	135.60
1200N	690CF	794.61	-13.70	135.14
1260N	690CF	800.79	-15.38	134.81
1320N	690CF	806.83	-16.89	134.77
1380N	690CF	820.36	-19.83	134.53
1440N	690CF	835.66	-23.28	134.07
1500N	690CF	854.09	-27.10	133.76
60N	730CF	719.75	-2.37	132.12
120N	730CF	719.78	-2.49	131.97

180N	730CE	720.74	-2.89	131.71
240N	730CE	719.52	-2.45	131.88
300N	730CE	718.62	-2.21	131.91
360N	730CE	718.46	-2.11	131.95
420N	730CE	719.54	-2.34	131.90
480N	730CE	718.95	-1.96	132.15
540N	730CE	718.58	-1.60	132.44
600N	730CE	718.79	-1.27	132.80
780N	730CE	729.74	-1.93	134.50
840N	730CE	738.44	-3.13	135.09
900N	730CE	745.70	-4.37	135.44
960N	730CE	763.85	-6.00	135.30
1020N	730CE	783.50	-11.79	135.22
1080N	730CE	792.65	-13.44	135.34
1140N	730CE	797.57	-14.32	135.34
1200N	730CE	811.63	-17.47	134.90
1260N	730CE	823.95	-19.98	134.74
1320N	730CE	830.17	-21.33	134.63
1380N	730CE	837.65	-23.20	134.34
1440N	730CE	846.79	-25.08	134.50
1500N	730CE	859.72	-27.88	134.42
60S	770CE	716.53	-1.78	132.23
ON	770CE	718.50	-2.31	132.04
60N	770CE	718.68	-2.38	131.97
120N	770CE	718.36	-2.21	132.03
180N	770CE	718.73	-2.33	131.95
240N	770CE	718.70	-2.29	131.96
300N	770CE	718.38	-2.16	132.00
360N	770CE	718.29	-2.13	131.99
420N	770CE	718.97	-2.08	132.15
480N	770CE	718.79	-1.91	132.26
540N	770CE	719.08	-1.81	132.41
600N	770CE	719.32	-1.53	132.71
660N	770CE	719.56	-1.19	133.21
720N	770CE	719.17	-0.87	133.64
780N	770CE	720.31	-0.95	134.05
840N	770CE	739.35	-4.51	134.06
900N	770CE	744.39	-5.18	134.58
960N	770CE	749.54	-6.18	134.93
1020N	770CE	757.19	-7.64	134.90
1080N	770CE	735.05	-12.93	135.18
1140N	770CE	798.39	-15.41	135.45
1200N	770CE	828.86	-21.87	135.03
1260N	770CE	843.98	-24.63	134.95
1320N	770CE	852.97	-26.46	134.42
1380N	770CE	864.29	-28.81	133.98
1440N	770CE	873.64	-30.74	133.70
1500N	770CE	885.28	-33.05	133.56
120N	810CE	718.86	-2.70	131.92
180N	810CE	718.86	-2.77	131.81
240N	810CE	719.52	-2.98	131.68
300N	810CE	719.43	-2.97	131.63
360N	810CE	719.37	-3.02	131.53
420N	810CE	719.45	-3.02	131.50
480N	810CE	720.46	-3.20	131.47
540N	810CE	720.48	-3.17	131.48
600N	810CE	720.35	-3.01	131.59
660N	810CE	720.27	-2.84	131.72
720N	810CE	719.96	-2.57	131.91
780N	810CE	719.43	-2.18	132.18

840N	8100E	718.42	-1.75	132.44
900N	8100E	719.96	-1.73	132.80
960N	8100E	719.29	-1.04	133.48
1020N	8100E	719.43	-0.65	134.16
1080N	8100E	723.93	-1.39	134.67
1140N	8100E	747.54	-5.90	134.71
1200N	8100E	758.26	-7.89	135.02
1260N	8100E	771.94	-10.70	135.14
1320N	8100E	793.68	-15.24	135.00
1380N	8100E	820.62	-20.71	134.79
1440N	8100E	840.56	-24.91	134.35
1500N	8100E	863.90	-29.36	134.24
1560N	8100E	878.19	-32.10	133.88
1620N	8100E	879.43	-32.20	133.47
1680N	8100E	883.96	-33.15	133.25
1740N	8100E	892.17	-35.03	132.98
1800N	8100E	905.60	-37.94	132.83
60N	8500E	717.33	-2.83	131.62
120N	8500E	717.50	-2.96	131.48
180N	8500E	717.58	-2.91	131.50
240N	8500E	717.53	-2.98	131.36
300N	8500E	717.61	-3.09	131.23
360N	8500E	717.71	-3.06	131.25
420N	8500E	717.68	-3.09	131.17
480N	8500E	717.65	-3.00	131.24
540N	8500E	717.70	-	
600N	8500E	717.66		
660N	8500E	717.75	-2.71	131.45
720N	8500E	718.77	-2.84	131.50
780N	8500E	720.10	-2.91	131.65
840N	8500E	720.16	-2.61	131.98
900N	8500E	718.55	-2.16	132.16
960N	8500E	718.42	-2.10	132.34
1020N	8500E	718.74	-2.03	132.70
1080N	8500E	728.67	-3.69	133.07
1140N	8500E	736.02	-4.78	133.55
1200N	8500E	752.35	-7.61	133.89
1260N	8500E	761.05	-9.01	134.26
1320N	8500E	777.72	-12.32	134.21
1380N	8500E	786.12	-14.08	134.02
1440N	8500E	795.60	-16.16	133.88
1500N	8500E	813.26	-19.93	133.61
1560N	8500E	824.79	-22.07	133.77
1620N	8500E	840.92	-25.42	133.55
1680N	8500E	859.75	-29.32	133.27
1740N	8500E	879.17	-33.31	132.96
1800N	8500E	888.80	-36.73	131.38
60N	8900E	720.96	-3.33	132.00
120N	8900E	719.57	-3.16	131.84
180N	8900E	719.93	-3.39	131.61
240N	8900E	720.36	-3.81	131.23
300N	8900E	720.26	-3.90	131.08
360N	8900E	719.72	-3.89	130.94
420N	8900E	720.23	-4.00	130.90
480N	8900E	720.33	-4.11	130.78
540N	8900E	720.10	-4.06	130.75
600N	8900E	719.76	-3.91	130.80
660N	8900E	721.92	-4.21	130.88
720N	8900E	718.54	-3.47	130.94
780N	8900E	718.53		

840N	8900E	718.53	-3.09	131.28
900N	8900E	721.22	-3.40	131.47
960N	8900E	721.25	-3.15	131.77
1020N	8900E	719.65	-2.52	132.19
1080N	8900E	718.06	-2.01	132.68
1140N	8900E	723.48	-3.35	132.78
1200N	8900E	746.61	-7.54	133.00
1260N	8900E	759.83	-10.08	133.11
1320N	8900E	784.83	-14.66	133.41
1380N	8900E	791.38	-15.86	133.35
1440N	8900E	794.75	-16.70	133.21
60N	9300E	720.58	-1.88	133.54
120N	9300E	719.96	-2.23	132.98
180N	9300E	720.58	-2.88	132.38
240N	9300E	720.98	-3.28	132.01
300N	9300E	720.33	-3.48	131.64
360N	9300E	721.00	-3.91	131.28
420N	9300E	720.80	-4.00	131.12
480N	9300E	721.36	-4.39	130.81
540N	9300E	719.15	-4.04	130.71
600N	9300E	720.02	-4.35	130.51
660N	9300E	720.84	-4.47	130.53
720N	9300E	720.56	-4.45	130.45
780N	9300E	720.29	-4.36	130.46
840N	9300E	718.34	-3.90	130.53
900N	9300E	720.49	-4.09	130.72
960N	9300E	720.72	-3.86	130.98
1020N	9300E	719.51	-3.41	131.21
1080N	9300E	720.21	-3.28	131.51
1140N	9300E	718.57	-2.57	132.06
1200N	9300E	722.41	-3.24	132.31
1260N	9300E	737.19	-6.02	132.48
1320N	9300E	752.06	-8.82	132.72
1380N	9300E	771.02	-12.18	133.17
1440N	9300E	778.22	-13.65	133.10
1500N	9300E	787.91	-15.69	132.99
1560N	9300E	798.32	-17.78	133.06
1620N	9300E	815.14	-21.30	132.93
1680N	9300E	832.79	-24.88	132.87
1740N	9300E	854.56	-29.25	132.77
1800N	9300E	876.20	-33.40	132.87
60N	9700E	721.41	-0.63	135.25
120N	9700E	722.04	-2.18	133.69
180N	9700E	721.67	-1.72	133.98
240N	9700E	722.64	-2.36	133.42
300N	9700E	723.34	-2.07	132.77
360N	9700E	721.91	-3.17	132.36
420N	9700E	722.03	-3.64	131.86
480N	9700E	721.29	-3.74	131.58
540N	9700E	721.16	-4.02	131.21
600N	9700E	721.63	-4.38	130.92
660N	9700E	720.66	-4.43	130.65
720N	9700E	720.61	-4.57	130.46
780N	9700E	721.52	-4.96	130.19
840N	9700E	720.41	-4.77	130.15
900N	9700E	720.82	-4.84	130.11
960N	9700E	721.35	-5.02	130.02
1020N	9700E	719.75	-4.62	130.10
1080N	9700E	719.14	-4.71	129.89
1140N	9700E	718.64	-4.22	130.28

1200N	9700E	718.07	-4.00	130.43
1260N	9700E	718.39	-3.61	130.92
1320N	9700E	718.23	-3.22	131.41
1380N	9700E	721.34	-3.42	131.99
1440N	9700E	721.66	-3.12	132.79
1500N	9700E	735.24	-5.56	133.05
1560N	9700E	752.18	-8.63	133.33
1620N	9700E	769.70	-11.92	133.37
1680N	9700E	783.76	-14.60	133.32
1740N	9700E	789.87	-15.72	133.44
60N	10100E	770.92	-8.69	136.91
120N	10100E	767.74	-8.39	136.52
180N	10100E	762.44	-7.83	136.02
240N	10100E	759.35	-7.68	135.57
300N	10100E	748.46	-5.74	135.43
360N	10100E	740.58	-4.77	134.89
420N	10100E	726.84	-2.34	134.74
480N	10100E	722.71	-1.73	134.39
540N	10100E	721.62	-2.27	133.42
600N	10100E	721.07	-2.61	132.87
660N	10100E	721.74	-3.39	132.12
720N	10100E	721.69	-3.75	131.69
780N	10100E	721.41	-4.11	131.23
840N	10100E	722.46	-4.77	130.72
900N	10100E	722.41	-5.04	130.39
960N	10100E	722.73	-5.27	130.20
1020N	10100E	722.51	-5.50	129.88
1080N	10100E	722.32	-5.52	129.79
1140N	10100E	722.41	-5.59	129.71
1200N	10100E	722.42	-5.59	129.68
1260N	10100E	722.32	-5.41	129.82
1320N	10100E	721.21	-4.81	130.19
1380N	10100E	719.68	-4.44	130.27
1440N	10100E	721.66	-4.51	130.59
1500N	10100E	721.86	-4.11	131.08
1560N	10100E	721.92	-3.71	131.61
1620N	10100E	726.63	-4.24	132.09
1680N	10100E	735.28	-5.37	132.72
1740N	10100E	745.75	-7.00	133.21
1800N	10100E	751.69	-7.71	133.85
1860N	10100E	770.10	-11.26	133.89
1920N	10100E	780.16	-13.24	133.93
180S	10500E	802.49	-14.35	137.63
120S	10500E	798.79	-13.64	137.57
60S	10500E	791.44	-12.32	137.49
0	10500E	777.34	-9.55	137.61
60N	10500E	771.52	-8.62	137.34
120N	10500E	767.53	-7.89	137.29
180N	10500E	763.15	-7.43	136.95
240N	10500E	757.94	-6.74	136.67
300N	10500E	739.70	-3.54	136.37
360N	10500E	727.69	-1.67	135.90
420N	10500E	721.47	-1.29	134.90
480N	10500E	721.32	-2.01	133.80
540N	10500E	721.52	-2.70	132.96
600N	10500E	721.27	-3.25	132.24
660N	10500E	721.72	-3.97	131.49
720N	10500E	721.57	-4.46	130.95
780N	10500E	718.89		
840N	10500E	721.05	-5.05	130.15

900N	10500E	719.58	-5.01	129.87
960N	10500E	720.91	-5.47	129.63
1020N	10500E	721.64	-5.69	129.51
1080N	10500E	721.70	-5.68	129.50
1140N	10500E	721.24	-5.46	129.60
1200N	10500E	721.64	-5.32	129.79
1260N	10500E	721.87	-5.10	130.03
1320N	10500E	721.36	-4.72	130.30
1380N	10500E	720.85	-4.20	130.72
1440N	10500E	721.63	-3.97	131.18
1500N	10500E	725.72	-4.31	131.57
1560N	10500E	725.15	-3.87	131.95
1620N	10500E	729.36	-4.34	132.58
1680N	10500E	731.01	-4.18	133.39
1740N	10500E	731.46	-3.95	133.65
1800N	10500E	748.84	-7.30	133.73
1860N	10500E	762.22	-9.65	134.01
1920N	10500E	768.64	-10.87	134.17
1980N	10500E	789.40	-14.73	134.34
2040N	10500E	797.98	-16.34	134.46
2100N	10500E	810.14	-19.08	132.43
60N	10650E	827.82	-18.91	137.80
120N	10650E	823.83	-18.25	137.70
180N	10650E	816.06	-16.51	137.92
240N	10650E	813.57	-15.91	138.05
300N	10650E	809.40	-15.30	137.91
360N	10650E	808.21	-14.98	138.21
420N	10650E	798.69	-13.12	138.34
480N	10650E	794.93	-12.52	138.49
540N	10650E	790.43	-12.26	138.01
600N	10650E	772.32	-9.37	137.02
660N	10650E	757.33	-6.81	136.70
720N	10650E	739.74	-3.92	135.95
780N	10650E	721.66	-0.79	135.55
840N	10650E	721.56	-1.74	134.23
900N	10650E	722.14	-2.65	133.17
960N	10650E	721.52	-3.05	132.54
60N	10900E	845.56	-21.99	138.08
120N	10900E	845.95	-22.15	138.04
180N	10900E	843.10	-21.74	137.97
240N	10900E	836.23	-20.59	137.78
300N	10900E	829.93	-19.21	137.94
360N	10900E	821.91	-17.79	137.96
420N	10900E	816.72	-16.96	138.00
480N	10900E	801.04	-14.12	137.87
540N	10900E	785.90	-11.30	137.73
600N	10900E	769.93	-8.42	137.48
660N	10900E	760.61	-7.14	136.83
720N	10900E	756.60	-7.04	136.11
780N	10900E	736.53	-3.33	135.79
840N	10900E	727.25	-2.56	134.66
900N	10900E	724.17	-2.89	133.53
960N	10900E	719.31	-2.50	132.87
1020N	10900E	719.35	-3.08	132.14
1080N	10900E	721.06	-3.85	131.58
1140N	10900E	721.59	-4.31	131.14
1200N	10900E	721.78	-4.79	130.64
1260N	10900E	721.17	-4.92	130.35
1320N	10900E	721.09	-5.13	130.08
1380N	10900E	721.46	-5.21	130.04

376 m elev 10
170.00

25m elev

1440N	10900E	721.00	-5.18	129.94
1500N	10900E	720.75	-5.03	130.01
1560N	10900E	720.58	-4.92	130.06
1620N	10900E	720.77	-4.83	130.16
1680N	10900E	722.51	-4.78	130.50
1740N	10900E	722.82	-4.46	130.85
1800N	10900E	723.16	-4.18	131.18
1860N	10900E	723.34	-3.98	131.40
1920N	10900E	722.92	-1.35	133.96
1980N	10900E	724.72	-3.35	132.30
2040N	10900E	723.23	-2.33	133.10
2100N	10900E	724.85	-1.91	133.89
0N	11300E	869.13	-26.21	138.42
60N	11300E	858.48	-26.21	138.34
120N	11300E	858.90	-24.41	138.32
180N	11300E	849.77	-22.66	138.34
240N	11300E	844.50	-21.76	138.19
300N	11300E	846.20	-22.02	138.21
360N	11300E	840.26	-20.92	138.19
420N	11300E	836.23	-20.33	138.10
480N	11300E	832.14	-19.81	137.98
540N	11300E	823.49	-18.22	138.03
600N	11300E	808.32	-15.92	137.38
660N	11300E	787.04	-11.66	137.59
720N	11300E	794.15	-13.61	136.93
780N	11300E	775.95	-10.44	136.58
840N	11300E	763.32	-8.36	136.23
900N	11300E	755.93	-7.73	135.40
960N	11300E	728.95	-2.46	135.48
1020N	11300E	725.64	-2.46	134.68
1080N	11300E	719.30	-1.90	133.76
1140N	11300E	721.49	-2.76	133.05
1200N	11300E	719.97	-2.98	132.44
1260N	11300E	721.19	-3.71	131.82
1320N	11300E	721.66	-4.29	131.23
1380N	11300E	723.56	-5.00	130.80
1440N	11300E	723.70	-5.26	130.52
1500N	11300E	723.34	-5.23	130.43
1560N	11300E	723.37	-5.31	130.31
1620N	11300E	723.19	-5.18	130.28
1680N	11300E	727.32	-5.93	130.37
1740N	11300E	727.28	-5.78	130.50
1800N	11300E	727.46	-5.61	130.67
1860N	11300E	719.49	-3.72	131.01
1920N	11300E	721.40	-3.74	131.31
1980N	11300E	721.79	-3.25	131.85
2040N	11300E	721.85	-2.73	132.34
2100N	11300E	722.16	-2.15	132.96
60N	11650E	892.61	-30.97	138.23
120N	11650E	887.77	-29.77	138.46
180N	11650E	882.43	-28.72	138.47
240N	11650E	883.11	-28.89	138.38
300N	11650E	879.07	-28.20	138.28
360N	11650E	875.80	-27.66	138.21
420N	11650E	874.15	-27.38	138.24
480N	11650E	865.98	-25.88	138.22
540N	11650E	859.71	-24.75	138.20
600N	11650E	849.51	-22.95	138.10
660N	11650E	840.38	-21.19	138.14
720N	11650E	835.71	-20.56	137.91

780N	11650E	828.21	-19.30	137.85
840N	11650E	816.28	-17.38	137.61
900N	11650E	804.32	-15.64	137.18
960N	11650E	784.17	-12.02	137.04
1020N	11650E	770.14	-9.79	136.56
1080N	11650E	756.52	-7.65	136.01
1140N	11650E	732.28	-3.49	135.65
1200N	11650E	720.74	-1.72	134.99
1260N	11650E	718.71	-1.91	133.89
1320N	11650E	720.51	-2.70	133.05
1380N	11650E	720.46	-3.12	132.42
1440N	11650E	720.74	-3.59	131.85
1500N	11650E	720.91	-3.97	131.43
1560N	11650E	718.82	-3.77	131.17
1620N	11650E	723.57	-4.70	131.09
1680N	11650E	725.32	-5.14	130.94
1740N	11650E	723.64	-4.84	130.86
1800N	11650E	719.36	-3.88	130.98
1860N	11650E	720.54	-3.98	131.06
1920N	11650E	721.99	-4.25	131.03
1980N	11650E	722.70	-4.14	131.23
2040N	11650E	722.84	-3.76	131.61
2100N	11650E	723.34	-3.53	131.91
60N	12050E	909.24	-23.89	138.49
60N	12050E	907.47	-33.62	138.43
120N	12050E	902.97	-32.73	138.44
180N	12050E	894.02	-30.90	138.50
240N	12050E	891.65	-30.52	138.40
300N	12050E	889.72	-30.04	138.48
360N	12050E	890.95	-30.25	138.48
420N	12050E	893.54	-20.76	138.55
480N	12050E	890.74	-30.32	138.49
540N	12050E	880.19	-28.51	138.28
600N	12050E	869.70	-26.60	138.22
660N	12050E	863.37	-25.42	138.22
720N	12050E	859.89	-24.93	138.11
780N	12050E	848.09	-22.93	137.89
840N	12050E	835.87	-20.62	137.89
900N	12050E	825.83	-18.94	137.63
960N	12050E	817.38	-17.49	137.46
1020N	12050E	814.86	-17.26	137.27
1080N	12050E	806.15	-15.91	137.12
1140N	12050E	791.39	-13.54	136.82
1200N	12050E	773.36	-10.47	136.49
1260N	12050E	749.87	-6.21	136.23
1320N	12050E	722.79	-1.20	136.03
1380N	12050E	718.28	-0.50	135.13
1440N	12050E	717.95	-0.97	134.55
1500N	12050E	720.32	-1.89	133.76
1560N	12050E	720.91	-2.40	133.19
1620N	12050E	720.78	-2.75	132.71
1680N	12050E	720.78	-3.23	132.15
1740N	12050E	720.59	-3.53	131.75
1800N	12050E	722.09	-4.01	131.50
1860N	12050E	722.04	-4.10	131.26
1920N	12050E	721.70	-4.04	131.31
1980N	12050E	720.47	-3.74	131.35
2040N	12050E	719.99	-3.57	131.39
2100N	12050E	724.02	-4.22	131.48
60N	12500E	919.33	-25.25	139.27

120N	1250CE	913.65	-34.20	139.14
180N	1250CE	903.80	-32.41	139.06
240N	1250CE	903.06	-32.24	139.05
300N	1250CE	902.55	-31.80	139.32
360N	1250CE	907.89	-33.03	139.15
420N	1250CE	903.30	-32.19	139.09
480N	1250CE	893.76	-30.27	139.14
540N	1250CE	891.67	-29.80	139.19
600N	1250CE	887.81	-29.13	139.10
660N	1250CE	881.91	-28.21	138.88
720N	1250CE	877.95	-27.53	138.83
780N	1250CE	874.38	-26.77	138.96
840N	1250CE	866.75	-25.47	138.85
900N	1250CE	867.23	-25.99	138.73
960N	1250CE	854.19	-23.61	138.69
1020N	1250CE	837.39	-20.42	138.70
1080N	1250CE	821.74	-17.52	138.54
1140N	1250CE	807.26	-14.87	138.30
1200N	1250CE	795.77	-12.58	138.25
1260N	1250CE	790.82	-11.73	137.96
1320N	1250CE	787.06	-11.14	137.76
1380N	1250CE	784.55	-11.00	137.47
1440N	1250CE	773.17	-9.30	136.99
1500N	1250CE	759.05	-7.36	136.25
1560N	1250CE	753.36	-6.73	135.80
1620N	1250CE	719.44	0.09	136.56
1680N	1250CE	719.90	-0.38	135.58
1740N	1250CE	719.22	-0.86	134.63
1800N	1250CE	720.75	-1.62	133.97
1860N	1250CE	721.15	-2.10	133.43
1920N	1250CE	720.75	-2.32	133.06
1980N	1250CE	720.67	-2.59	132.73
2040N	1250CE	720.72	-2.81	132.47
2100N	1250CE	721.29	-3.02	132.31
300N	10170E	759.78	-7.49	135.90
300N	10230E	762.20	-7.72	136.21
300N	10290E	766.14	-8.20	136.58
300N	10350E	771.05	-8.72	137.09
300N	10410E	778.96	-10.00	137.40
300N	10470E	791.78	-12.35	137.54
300N	10530E	801.66	-13.97	138.00
300N	10590E	805.59	-14.61	137.98
300N	10670E	809.42	-15.22	138.07
300N	10730E	811.84	-15.57	138.05
300N	10790E	817.63	-16.68	138.07
300N	10850E	825.59	-18.26	138.05
300N	10910E	829.60	-19.02	138.04
300N	10970E	827.77	-18.54	138.15
300N	11130E	827.94	-18.50	138.24
300N	11190E	833.94	-19.59	138.32
300N	11250E	838.96	-20.45	138.43
600N	10170E	720.68	-2.35	133.13
600N	10230E	720.80	-1.95	133.63
600N	10290E	721.23	-1.71	134.06
600N	10350E	720.69	-1.23	134.62
600N	10350E	721.34	-0.98	135.19
600N	10410E	722.03	-0.82	135.78
600N	10470E	727.30	-1.90	135.93
600N	10530E	738.38	-3.88	136.04
600N	10590E	757.03	-6.96	136.49

600N 10650E	758.65	-6.68	137.05
600N 10710E	759.58	-6.68	137.22
600N 10770E	762.26	-6.93	137.48
600N 10830E	764.65	-7.34	137.54
600N 10910E	775.56	-9.29	137.66
600N 10970E	781.57	-10.45	137.65
600N 11130E	786.35	-11.22	137.82
600N 11190E	796.51	-13.02	137.98
600N 11250E	803.70	-14.41	137.98
600N 11310E	813.38	-16.40	137.87
BLO 3850E	718.14	2.93	136.09
BLO 3900E	717.77	3.05	136.16
BLC 3950E	719.13	2.55	135.93
BLO 4000E	719.81	2.35	135.88
BLO 4050E	720.71	2.06	135.76
BLC 4100E	721.21	1.80	135.61
BLO 4150E	721.57	1.81	135.72
BLO 4200E	718.27		
BLO 4250E	717.18	2.72	135.86
BLO 4300E	715.89	2.93	135.86
BLO 4350E	715.79	1.86	135.52
BLO 4400E	718.54	2.07	135.54
BLO 4450E	725.56	0.58	135.36
BLO 4500E	725.58	0.83	135.63
BL 4550E	728.55	0.17	135.54
BL 4600E	728.69	0.31	135.73
BL 4650E	729.35	0.53	136.10
BL 4750E	730.64	0.47	136.31
BL 4800E	728.14	1.58	136.96
BL 4850E	725.97	2.31	137.30
BL 4900E	723.95	3.23	137.86
BL 4950E	721.55	4.05	138.25
BL 5000E	721.77	4.00	138.23
BL 5050E	721.88	4.21	138.46
BL 5100E	723.01	4.08	138.54
BL 5150E	720.10	4.82	138.74
BL 5200E	719.30	4.91	138.68
BL 5250E	718.67	4.52	138.19
BL 5300E	715.75	4.83	137.97
BL 5350E	715.06	4.71	137.73
BLO 5700E	718.05	1.80	135.46
BLO 5750E	717.97	1.50	135.16
BLC 5800E	717.76	1.31	134.94
BLO 5850E	717.04	1.25	134.76
BLO 5900E	717.61	0.95	134.59
BLO 5950E	716.43	0.94	134.37
BLO 6000E	715.67	0.80	134.11
BLC 6050E	717.25	0.14	133.76
BLC 6100E	718.02	0.01	133.79
BLO 6150E	718.23	-0.21	133.62
BLO 6200E	717.59	-0.33	133.40
BLC 6250E	718.32	-0.55	133.33
BLO 6300E	718.15	-0.57	133.31
BLC 6350E	719.16	-0.96	133.13
BLO 6400E	718.55	-0.84	133.14
BLO 6450E	718.97	-0.96	133.12
BLC 6500E	718.96	-1.06	133.04
BL 6550E	719.35	-1.42	132.78
BL 6600E	719.34	-1.40	132.81
BL 6650E	719.20	-1.36	132.83

BL 6700E	719.30	-1.52	132.70
BL 6750E	718.52	-1.42	132.67
BL 6800E	717.87	-1.29	132.70
BLO 6850E	715.72	-0.92	132.69
BLO 6900E	715.49	-0.93	132.66
BLO 6950E	715.80	-1.05	132.61
BLO 7000E	718.49	-1.69	132.50
BLC 7050E	718.39	-1.68	132.51
BLO 7100E	718.50	-1.73	132.50
BLC 7150E	718.26	-1.77	132.42
BLO 7200E	719.66	-2.04	132.44
BLO 7250E	719.92	-2.03	132.52
BLC 7300E	720.05	-2.20	132.39
BLO 7350E	720.02	-2.34	132.26
BLO 7400E	720.16	-2.44	132.21
BLO 7450E	719.07	-2.17	132.28
BLO 7500E	717.97	-1.99	132.28
BLO 7550E	717.92	-1.96	132.31
BLC 7600E	716.30	-1.69	132.28
BLO 7650E	716.23		
BLC 7700E	716.63	-1.76	132.33
BLC 7750E	718.65	-2.26	132.22
BLC 7800E	718.67	-2.38	132.12
BLO 7850E	718.70	-2.34	132.18
BLO 7900E	718.84	-2.45	132.12
BLO 7950E	717.25	-2.24	132.05
BLC 8000E	718.91	-2.66	131.97
BL 8050E	719.36	-2.77	131.95
BL 8100E	719.23	-2.82	131.90
BL 8150E	719.04	-2.81	131.90
BL 8200E	719.71	-2.98	131.88
BL 8250E	719.28	-2.88	131.91
BL 8300E	719.71	-3.02	131.87
BL 8350E	719.34	-2.95	131.88
BL 8400E	719.64	-3.07	131.83
BL 8450E	719.33	-3.04	131.86
BL 8500E	717.14	-2.69	131.81
BL 8550E	717.36	-2.77	131.79
BL 8600E	719.09	-3.08	131.81
BL 8650E	719.67	-2.91	132.12
BL 8700E	719.75	-2.90	132.18
BL 8750E	720.56	-3.09	132.16
BL 8800E	721.29	-3.15	132.26
BL 8850E	720.53	-2.94	132.36
BL 8900E	721.15	-2.90	132.54
BL 8950E	720.82	-2.75	132.64
BL 9000E	719.58	-2.35	132.85
BL 9050E	721.53	-2.67	132.92
BL 9100E	720.94	-2.33	133.16
BL 9150E	722.04	-2.49	133.22
BL 9200E	722.20	-2.21	133.56
BL 9250E	721.57	-1.78	133.91
BL 9300E	720.09	-1.21	134.27
BL 9350E	719.19	-0.73	134.59
BL 9400E	719.74	-0.63	134.84
BL 9450E	719.79	-0.39	135.14
BL 9500E	721.77	-0.61	135.32
BL 9550E	722.25	-0.59	135.51
BL 9600E	722.67	-0.58	135.73
BL 9650E	723.02	-0.41	135.98

BL	9700E	736.00	-2.95	135.87
BL	9750E	737.98	-3.19	136.05
BL	9800E	747.10	-4.82	136.17
PL	9850E	745.63	-4.34	136.42
BL	9900E	752.56	-5.53	136.55
BL	9950E	758.12	-6.43	136.73
BL	10000E	761.27	-6.83	136.94
BL	10050E	765.34	-7.50	137.10
BL	10100E	772.44	-8.77	137.23
BL	10150E	781.66	-10.46	137.33
BL	10200E	788.18	-11.75	137.34
BL	10250E	793.80	-12.73	137.45
EL	10300E	796.56	-13.22	137.51
BL	10350E	800.06	-13.81	137.63
BL	10400E	808.72	-15.42	137.72
BL	10450E	817.02	-16.92	137.83
EL	10500E	823.66	-18.20	137.81
BL	10550E	828.86	-19.11	137.90
BL	10600E	832.41	-19.84	137.81
BL	10650E	835.10	-20.18	137.93
BL	10700E	837.24	-20.52	137.99
BL	10750E	841.03	-21.27	137.96
BL	10800E	845.46	-22.37	137.70
BL	10850E	851.74	-23.46	137.82
BL	10900E	854.62	-23.91	137.94
BLO	10950E	856.66	-24.35	137.88
BLC	11000E	857.29	-24.28	138.07
BLC	11050E	861.57	-24.91	138.27
BLO	11100E	864.97	-25.46	138.38
BLO	11150E	867.47	-26.06	138.27
BLC	11200E	869.53	-26.47	138.26
BLO	11250E	870.59	-26.65	138.29
BLO	11300E	874.29	-27.29	138.36
BLO	11350E	877.74	-27.81	138.51
BLO	11400E	880.20	-28.40	138.39
BLC	11450E	881.62	-28.78	138.29
BLO	11500E	885.45	-29.43	138.40
BLO	11550E	889.97	-30.29	138.41
BLC	11600E	895.18	-31.35	138.37
BLO	11650E	898.61	-32.02	138.35
BLC	11700E	902.14	-32.72	138.33
BLC	11750E	906.87	-33.81	138.17
BLO	11800E	909.15	-34.10	138.33
BLC	11850E	906.98	-33.57	138.40
BLO	11900E	905.21	-33.10	138.51
BLO	11950E	905.23	-33.08	138.54
BLC	12000E	904.71	-32.86	138.66
BLC	12050E	904.02	-32.74	138.66
BLO	12100E	904.37	-32.70	138.79
BLO	12150E	904.96	-32.76	138.86
BLO	12200E	906.26	-33.01	138.87
BLO	12250E	906.28	-32.92	138.98
BLO	12300E	906.30	-32.97	138.97
BLO	12350E	906.34	-32.90	139.07
BLC	12400E	908.14	-33.04	139.30
BLC	12450E	911.47	-33.72	139.26
BLO	12500E	914.35	-34.15	139.39

WOP GRID DATA (Coord in 100's ft)

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20W	2N	732.40	2.71	136.83
20W	4N	737.71	1.95	137.04
20W	6N	742.86	1.15	137.18
20W	8N	742.34	1.48	137.37
20W	10N	744.93	1.26	137.61
20W	12N	745.72	1.38	137.85
20W	14N	745.27	1.97	138.23
20W	16N	746.21	1.98	138.53
20W	18N	749.90	1.10	138.37
20W	20N	761.85	-1.59	137.94
20W	22N	769.41	-2.94	138.06
20W	24N	764.68	-1.68	138.32
20W	26N	765.26	-1.83	138.29
20W	28N	769.56	-3.03	137.95
20W	30N	776.63	-4.55	137.81
20W	32N	791.02	-7.45	137.66
20W	34N	794.55	-8.32	137.46
20W	36N	800.07	-9.28	137.53
20W	38N	804.76	-10.38	137.26
20W	40N	811.41	-11.75	137.34
20W	42N	823.63	-14.36	137.15
20W	44N	837.13	-17.15	136.99
20W	46N	854.78	-20.79	136.71
20W	48N	864.26	-22.59	136.64
20W	50N	869.75	-23.63	136.51
20W	52N	873.25	-24.43	136.27
20W	54N	872.95	-24.61	136.08
20W	56N	878.68	-26.00	136.03
20W	58N	897.57	-30.18	135.56
20W	60N	921.96	-35.08	135.26
20W	62N	935.31	-37.59	135.39
20W	64N	939.30	-38.34	135.11
20W	66N	938.14	-38.27	134.93
20W	68N	947.44	-40.31	134.78
20W	70N	961.58	-43.22	134.67
20W	72N	979.08	-46.80	134.44
20W	74N	993.16	-49.70	134.22
0	00	759.81	-0.19	139.45
0	2N	759.38	-0.26	139.24
0	4N	759.32	-0.54	138.90
0	6N	757.55	-0.01	139.04
0	8N	757.21	0.08	139.34
0	10N	759.26	-0.39	138.94
0	12N	760.05	-0.51	138.95
0	14N	760.84	-0.60	139.00
0	16N	761.76	-0.71	139.07
0	18N	765.02	-1.41	139.01
0	20N	768.52	-2.06	139.05
0	22N	772.45	-2.74	139.15
0	24N	776.05	-3.46	139.20
0	26N	782.85	-4.78	139.24
0	28N	788.94	-6.06	139.27
0	30N	798.42	-8.02	139.21
0	32N	815.13	-11.40	139.02
0	34N	826.86	-13.83	138.83
0	36N	839.85	-16.50	138.58
0	38N	849.81	-18.62	138.26
0	40N	860.24	-20.57	138.20
0	42N	865.57	-21.61	138.07
0	44N	877.46	-24.10	137.79

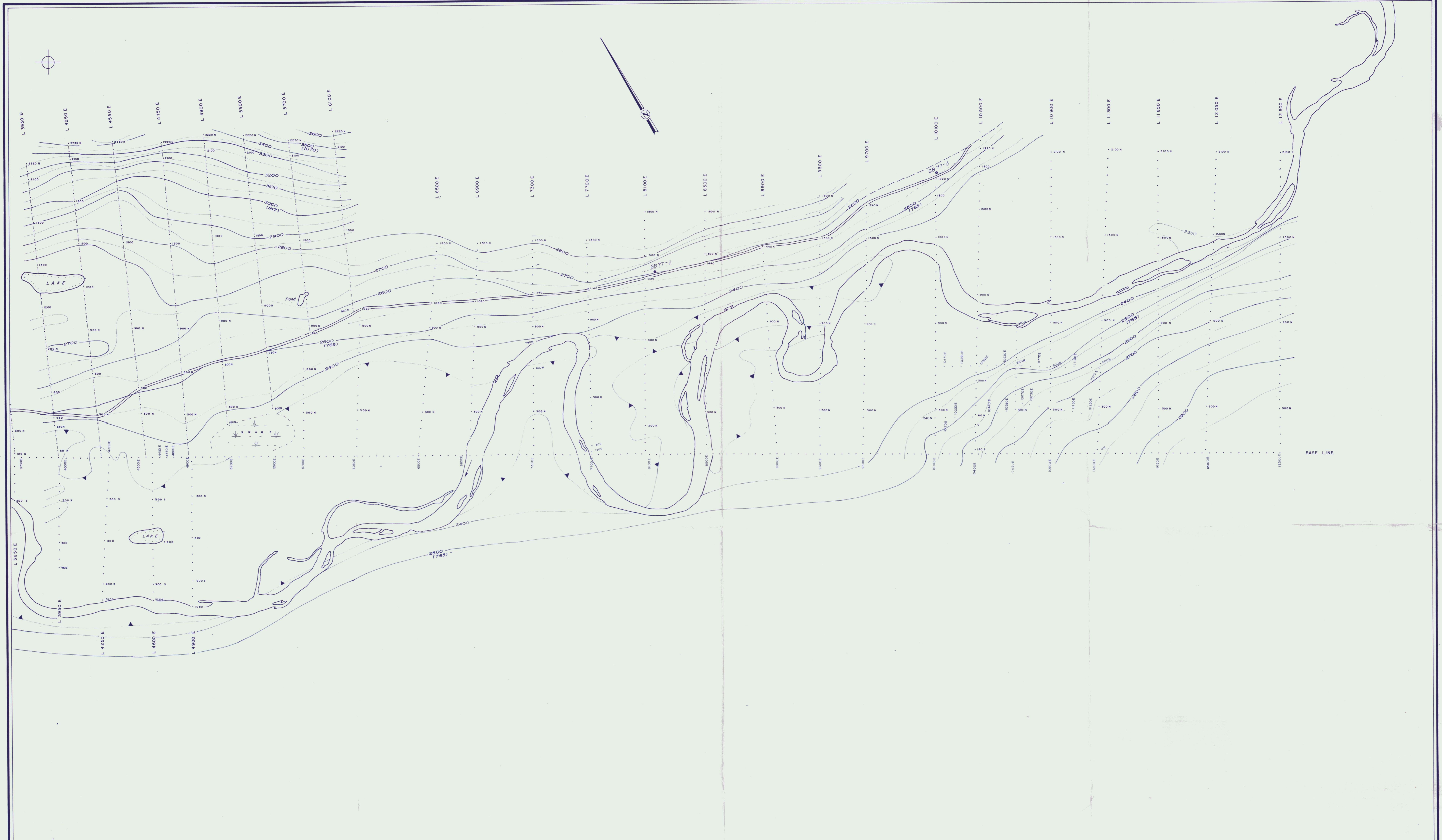
0	46N	886.75	-25.97	137.63
0	48N	894.89	-27.61	137.46
0	50N	900.23	-28.72	137.29
0	52N	902.94	-29.39	137.06
0	54N	905.93	-30.12	136.91
0	56N	906.75	-30.40	136.92
0	58N	913.00	-31.64	137.08
0	60N	923.27	-34.17	136.71
0	62N	941.44	-38.14	136.21
0	64N	961.40	-42.25	135.87
0	66N	979.84	-46.00	135.56
0	68N	987.95	-47.60	135.24
0	70N	990.48	-48.11	134.99
0	72N	989.75	-48.20	134.68
0	74N	993.40	-49.15	134.50
0	76N	1001.69	-51.11	134.18
0	78N	1017.24	-54.35	133.86
0	80N	1029.55	-57.09	133.46
10E	0	754.62	0.97	139.71
10E	2N	757.34	0.46	139.69
10E	4N	760.35	-0.14	139.64
10E	6N	763.19	-0.85	139.46
10E	8N	766.30	-1.30	139.58
10E	10N	769.74	-2.07	139.46
10E	12N	773.09	-2.60	139.58
10E	14N	777.54	-3.44	139.60
10E	16N	782.24	-4.61	139.35
10E	18N	789.13	-6.12	139.17
10E	20N	794.58	-7.20	139.12
10E	22N	798.61	-7.91	139.17
10E	24N	803.85	-8.85	139.25
10E	26N	809.24	-9.80	139.37
10E	28N	815.16	-10.96	139.44
10E	30N	826.71	-13.34	139.33
10E	32N	839.08	-16.04	139.04
10E	34N	858.32	-19.90	138.86
10E	36N	868.92	-21.84	138.80
10E	38N	874.23	-22.73	138.68
10E	40N	875.90	-22.92	138.63
10E	42N	877.21	-23.15	138.60
10E	44N	881.76	-24.11	138.47
10E	46N	889.23	-25.77	138.22
10E	48N	897.06	-27.46	137.98
10E	50N	901.45	-28.31	137.94
10E	52N	906.02	-29.41	137.69
10E	54N	910.89	-30.73	137.34
10E	56N	916.50	-31.93	137.29
10E	58N	922.54	-33.29	137.26
10E	60N	929.61	-35.08	137.10
10E	62N	945.92	-38.68	136.79
10E	64N	972.13	-44.51	136.04
10E	66N	996.51	-49.41	135.81
10E	68N	1004.04	-50.76	135.50
10E	70N	1004.99	-50.89	135.13
10E	72N	1005.90	-51.34	134.60
10E	74N	1007.03	-51.53	134.51
10E	76N	1007.88	-51.89	134.30
10E	78N	1010.53	-52.85	133.87
10E	80N	1013.76	-53.82	133.63
20E	0	762.61	-0.43	140.00

20F	2N	768.80	-2.00	139.60
20E	4N	772.67	-2.83	139.50
20E	6N	772.33	-2.67	139.57
20F	8N	777.33	-3.56	139.65
20E	10N	783.55	-4.76	139.63
20E	12N	789.16	-5.80	139.62
20E	14N	793.00	-6.58	139.66
20E	16N	798.24	-7.76	139.49
20E	18N	808.39	-9.70	139.45
20F	20N	815.71	-11.26	139.30
20E	22N	824.12	-12.90	139.28
20E	24N	832.84	-14.67	139.16
20E	26N	833.81	-14.77	139.16
20E	28N	843.38	-16.51	139.24
20E	30N	852.31	-17.98	139.47
20E	32N	858.04	-18.99	139.52
20E	34N	869.50	-21.44	139.21
20E	36N	878.43	-22.10	139.18
20E	38N	881.76	-23.73	139.12
20E	40N	882.40	-23.82	139.02
20E	42N	885.41	-24.37	139.01
20E	44N	893.43	-25.98	138.95
20E	46N	901.87	-27.79	138.71
20E	48N	908.58	-29.21	138.56
20E	50N	912.57	-30.19	138.32
20E	52N	918.54	-31.49	138.19
20E	54N	922.66	-32.59	137.84
20F	56N	930.19	-34.25	137.66
20E	58N	935.98	-35.71	137.68
20E	60N	941.47	-37.09	137.31
20E	62N	952.13	-39.72	137.03
20E	64N	971.34	-44.09	136.61
20E	66N	1002.12	-50.67	135.95
20E	68N	1021.51	-54.67	135.60
20F	70N	1031.75	-56.68	134.77
20E	72N	1035.86	-57.46	134.74
20E	74N	1039.18	-58.20	134.36
20E	76N	1037.36	-57.95	134.04
20E	78N	1036.41	-57.89	133.81
20E	80N	1032.81	-57.45	133.53
32E	8N	787.51	-5.33	139.92
32E	10N	790.99	-6.13	139.78
32E	12N	793.15	-6.61	139.81
32E	14N	798.64	-7.60	139.91
32E	16N	804.76	-8.73	140.00
32E	18N	814.85	-10.80	139.80
32E	20N	830.43	-14.05	139.47
32E	22N	835.40	-14.80	139.56
32E	24N	837.13	-15.06	139.60
32E	26N	839.08	-15.35	139.72
32E	28N	848.90	-17.31	139.59
32E	30N	862.89	-20.17	139.32
32E	32N	870.33	-21.36	139.46
32E	34N	878.98	-22.90	139.53
32E	36N	877.64	-22.67	139.40
32E	38N	879.74	-23.08	139.37
32E	40N	884.96	-24.15	139.31
32E	42N	891.91	-25.74	139.05
32E	44N	898.61	-27.19	138.88
32E	46N	905.83	-28.65	138.80

32E	48N	913.91	-20.33	138.68
32E	50N	919.86	-21.65	138.50
32E	52N	925.80	-22.89	138.43
32E	54N	936.53	-25.14	138.21
32E	56N	944.39	-26.82	138.03
32E	58N	951.65	-28.47	137.82
32E	60N	958.87	-40.12	137.71
32E	62N	964.72	-41.71	137.53
32E	64N	976.21	-44.16	137.57
32E	66N	996.39	-48.56	137.07
32E	68N	1020.56	-53.70	136.46
32E	70N	1039.92	-57.84	135.83
32E	72N	1055.31	-61.03	135.26
32E	74N	1067.41	-63.71	134.62
32E	76N	1072.16	-64.63	134.35
32E	78N	1076.83	-65.75	133.99
32E	80N	1081.83	-67.02	133.62
40E	8N	777.67	-2.99	140.67
40E	10N	784.62	-4.20	140.85
40E	12N	797.66	-6.79	140.76
40E	14N	810.68	-9.24	140.79
40E	16N	815.13	-10.01	140.75
40E	18N	825.06	-12.12	140.47
40E	20N	832.23	-13.85	140.04
40E	22N	835.49	-14.44	140.01
40E	24N	841.00	-15.59	139.88
40E	26N	853.35	-18.24	139.55
40E	28N	863.07	-20.13	139.49
40E	30N	863.83	-20.06	139.57
40E	32N	864.93	-20.10	139.66
40E	34N	871.36	-21.36	139.61
40E	36N	872.95	-21.68	139.58
40E	38N	875.87	-22.33	139.51
40E	40N	881.60	-23.49	139.45
40E	42N	892.94	-25.82	139.29
40E	44N	896.23	-26.62	139.14
40E	46N	904.65	-28.42	138.98
40E	48N	913.73	-30.24	138.93
40E	50N	921.87	-32.05	138.67
40E	52N	931.22	-34.03	138.47
40E	54N	945.40	-36.92	138.28
40E	56N	951.07	-38.09	138.14
40E	58N	954.21	-38.73	138.08
40E	60N	963.53	-40.96	137.79
40E	62N	971.89	-42.98	137.51
40E	64N	980.94	-45.08	137.35
40E	66N	992.00	-47.63	137.10
40E	68N	1011.08	-51.73	136.64
40E	70N	1031.17	-55.79	136.36
40E	72N	1049.64	-59.85	135.69
40E	74N	1067.99	-63.72	135.11
40E	76N	1077.80	-65.82	134.58
40E	78N	1087.04	-67.98	133.94
40E	80N	1094.02	-69.47	133.61
60E	0	721.25	6.99	140.42
60E	2N	724.94	6.23	140.50
60E	4N	731.15	4.90	140.22
60E	6N	744.84	2.43	140.38
60E	8N	756.76	0.22	140.27
60E	10N	771.94	-2.37	140.48

60E	12N	780.53	-3.88	140.59
60E	14N	784.59	-4.65	140.58
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60E	20N	813.27	-10.21	140.32
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60E	44N	876.48	-23.05	139.22
60E	46N	883.40	-24.57	139.20
60E	48N	895.84	-27.30	139.08
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60E	58N	965.94	-41.62	138.17
60E	60N	980.91	-44.81	137.86
60E	62N	992.31	-47.20	137.67
60E	64N	999.59	-48.80	137.42
60E	66N	1012.00	-51.67	137.00
60E	68N	1027.75	-55.07	136.72
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60E	76N	1093.77	-69.56	134.86
60E	78N	1111.30	-73.39	134.28
60E	80N	1120.96	-75.51	133.67
80E	0	748.34	1.73	140.30
80E	2N	750.66	1.40	140.32
80E	4N	751.18	1.34	140.29
80E	6N	754.14	0.64	140.13
80E	8N	758.98	-0.36	139.96
80E	10N	763.71	-1.34	139.82
80E	12N	768.46	-2.31	139.73
80E	14N	770.35	-2.67	139.71
80E	16N	772.88	-3.00	139.78
80E	18N	776.02	-3.57	139.86
80E	20N	779.04	-4.24	139.77
80E	22N	785.44	-5.25	140.00
80E	24N	787.76	-5.54	140.22
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80E	28N	807.60	-9.33	140.26
80E	30N	816.56	-11.33	139.96
80E	32N	829.30	-13.59	140.11
80E	34N	832.23	-14.17	140.07
80E	36N	838.66	-15.56	139.94
80E	38N	848.23	-17.50	139.85
80E	40N	862.55	-20.48	139.58
80E	42N	876.57	-23.34	139.38
80E	44N	883.01	-24.69	139.13
80E	46N	888.37	-25.90	138.87
80E	48N	894.59	-27.20	138.75

80E	50N	902.09	-28.71	138.69
80E	52N	910.56	-30.53	138.53
80E	54N	916.93	-31.90	138.44
80E	56N	923.82	-33.47	138.37
80E	58N	936.50	-36.15	138.30
80E	60N	948.72	-38.93	138.11
80E	62N	964.33	-42.22	137.99
80E	64N	987.13	-47.18	137.46
80E	66N	1000.17	-49.88	137.28
80E	68N	1021.48	-54.31	136.99
80E	70N	1041.84	-58.55	136.71
80E	72N	1060.12	-62.45	136.24
80E	74N	1075.18	-65.49	135.97
80E	76N	1088.81	-68.21	135.73
80E	78N	1104.32	-71.57	135.24
80E	80N	1120.20	-74.94	134.87
100E	0N	715.82	6.67	139.34
100E	2N	714.88	7.53	140.13
100E	4N	718.32	6.95	140.13
100E	6N	742.00	2.29	139.97
100E	8N	750.69	0.68	139.69
100E	10N	750.75	0.59	139.55
100E	12N	750.33	0.67	139.52
100E	14N	752.79	0.20	139.50
100E	16N	753.50	0.45	139.86
100E	18N	754.75	0.47	140.08
100E	20N	757.06	0.11	140.13
100E	22N	759.56	-0.49	139.98
100E	24N	761.42	-1.07	139.77
100E	26N	764.86	-1.72	139.84
100E	28N	771.05	-3.08	140.07
100E	30N	782.97	-5.53	139.90
100E	32N	800.40	-9.04	139.68
100E	34N	814.21	-11.73	139.61
100E	36N	826.22	-14.05	139.47
100E	38N	837.86	-16.18	139.53
100E	40N	843.69	-17.33	139.43
100E	52N	906.57	-29.82	138.70



LEGEND & NOTES

- GB WCP - GRAVITY BASE STATION
- 3000 S. SURVEY GRID STATION
- 3500 ——— TOPOGRAPHIC CONTOUR, INTERVAL = 50 FEET
(1070) — IN FEET WITH METRIC EQUIVALENT IN BRACKETS
— METRIC EQ. INCLUDES GEODETIC ADJUSTMENT
GEODETIC ADJUSTMENT = 10.12'

WEST	CENTRAL 3-2	EAST 3-1
------	----------------	-------------

SHEET INDEX

TO ACCOMPANY REPORT TITLED
Texas Project
Gravity Survey
 BY *C. A. Ager, P.D. King*
2/11/77
 DATED *1/77* PROJECT # *Texas*

DUPONT EXPLORATION
CANADA

TENAS PROJECT GRAVITY SURVEY

ELEVATION MAP

C.A. AGER AND ASSOCIATES LTD

300 200 100 0 10,000 200 300 m

S C A L E

800 400 200 100 50 0 100 200 300

INCH = 800 FEET

MAPPED BY	C. A. AGER	REVISED		N.T.S. No.	105 K I
DATE	APRIL				
	JUNE 1977				
DRAWN BY	C. H. S.			ACCT No.	TENAS
DATE	JULY, 1977			DRWG No.	3-1



5000 W

4500 W

4000 W

3500 W

3000 W

2500 W

2000 W

1500 W

1000 W

500 W

0 W

500 E

1000 E

1500 E

2000 E

2500 E

3000 E

3500 E

4000 E

4500 E

5000 E

5500 E

6000 E

6500 E

7000 E

7500 E

8000 E

8500 E

9000 E

9500 E

10000 E

10500 E

11000 E

11500 E

12000 E

12500 E

13000 E

13500 E

14000 E

14500 E

15000 E

15500 E

16000 E

16500 E

17000 E

17500 E

18000 E

18500 E

19000 E

19500 E

20000 E

20500 E

21000 E

21500 E

22000 E

22500 E

23000 E

23500 E

24000 E

24500 E

25000 E

25500 E

26000 E

26500 E

27000 E

27500 E

28000 E

28500 E

29000 E

29500 E

30000 E

30500 E

31000 E

31500 E

32000 E

32500 E

33000 E

33500 E

34000 E

34500 E

35000 E

35500 E

36000 E

36500 E

37000 E

37500 E

38000 E

38500 E

39000 E

39500 E

40000 E

40500 E

41000 E

41500 E

42000 E

42500 E

43000 E

43500 E

44000 E

44500 E

45000 E

45500 E

46000 E

46500 E

47000 E

47500 E

48000 E

48500 E

49000 E

49500 E

50000 E

50500 E

51000 E

51500 E

52000 E

52500 E

53000 E

53500 E

54000 E

54500 E

55000 E

55500 E

56000 E

56500 E

57000 E

57500 E

58000 E

58500 E

59000 E

59500 E

60000 E

60500 E

61000 E

61500 E

62000 E

62500 E

63000 E

63500 E

64000 E

64500 E

65000 E

65500 E

66000 E

66500 E

67000 E

67500 E

68000 E

68500 E

69000 E

69500 E

70000 E

70500 E

71000 E

71500 E

72000 E

72500 E

73000 E

73500 E

74000 E

74500 E

75000 E

75500 E

76000 E

76500 E

77000 E

77500 E

78000 E

78500 E

79000 E

79500 E

80000 E

80500 E

81000 E

81500 E

82000 E

82500 E

83000 E

83500 E

84000 E

84500 E

85000 E

85500 E

86000 E

86500 E

87000 E

87500 E

88000 E

88500 E

89000 E

89500 E

90000 E

90500 E

91000 E

91500 E

92000 E

92500 E

93000 E

93500 E

94000 E

94500 E

95000 E

95500 E

96000 E

96500 E

97000 E

97500 E

98000 E

98500 E

99000 E

99500 E

100000 E

100500 E

101000 E

101500 E

102000 E

102500 E

103000 E

103500 E

104000 E

104500 E

105000 E

105500 E

106000 E

106500 E

107000 E

107500 E

108000 E

108500 E

109000 E

109500 E

110000 E

110500 E

111000 E

111500 E

112000 E

112500 E

113000 E

113500 E

114000 E

114500 E

115000 E

115500 E

116000 E

116500 E

117000 E

117500 E

118000 E

118500 E

119000 E

119500 E

120000 E

120500 E

121000 E

121500 E

122000 E

122500 E

123000 E

123500 E

124000 E

124500 E

125000 E

125500 E

126000 E

126500 E

127000 E

127500 E

128000 E

128500 E

129000 E

129500 E

130000 E

130500 E

131000 E

131500 E

132000 E

132500 E

133000 E

133500 E

134000 E

134500 E

135000 E

135500 E

136000 E

136500 E

137000 E

137500 E

138000 E

138500 E

139000 E

139500 E

140000 E

140500 E

141000 E

141500 E

142000 E

142500 E

143000 E

143500 E

144000 E

144500 E

145000 E

145500 E

146000 E

146500 E

147000 E

147500 E

148000 E

148500 E

149000 E

149500 E

150000 E

150500 E

151000 E

151500 E

152000 E

152500 E

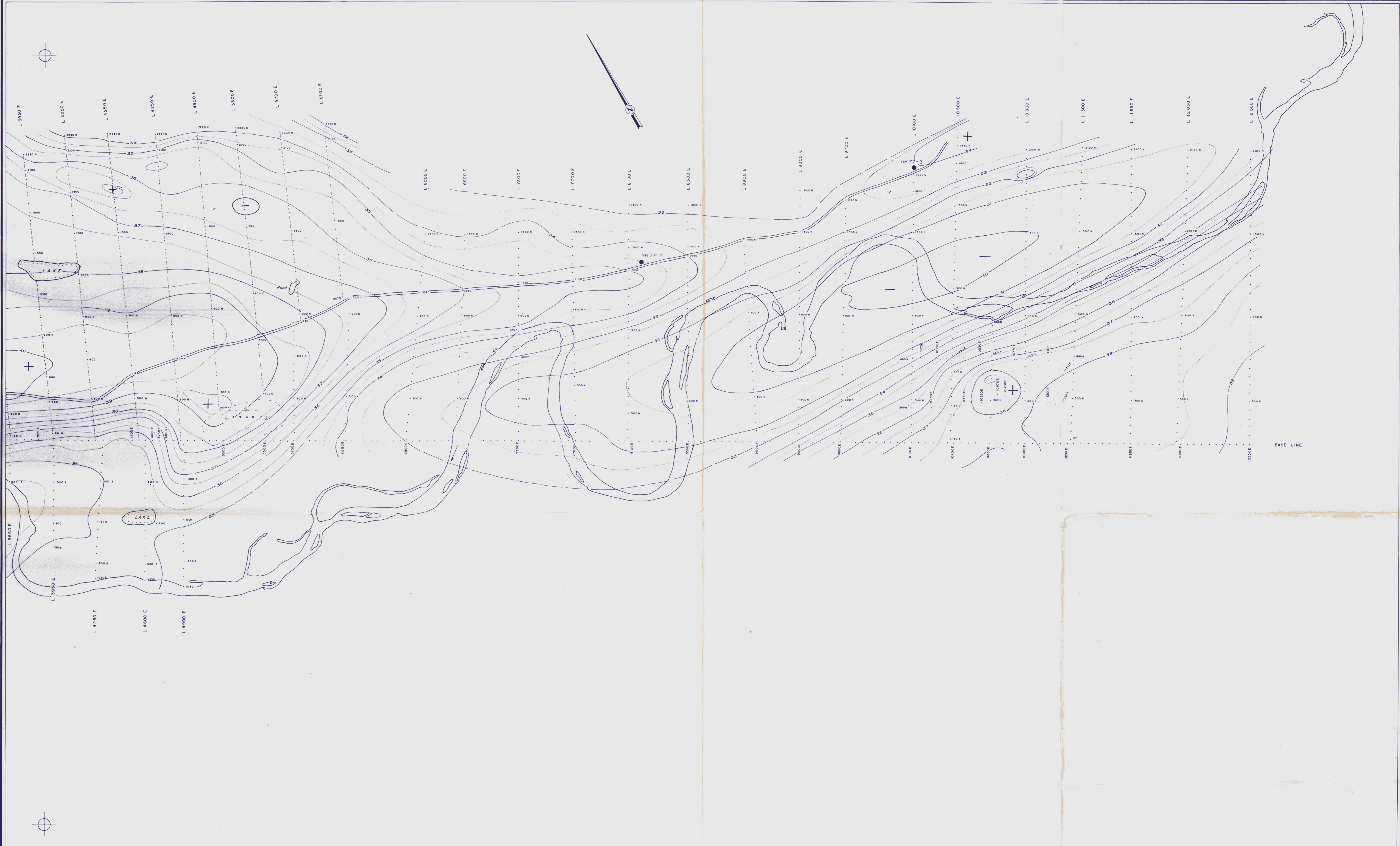
153000 E

153500 E

154000 E

154500 E

155000 E



LEGEND

- GB-77-2 - GRAVITY BASE STATION
- SURVEY GRID STATION
- 36 — GRAVITY CONTOUR IN MILLIGALS
- CONTOUR INTERVAL = 0.50 M. GALS.

WEST	CENTRAL	EAST
	4-2	4-1

SHEET INDEX

TO ACCOMPANY REPORT TITLED
Tenas Project
Gravity Survey
C. A. Ager and Assoc.
 BY: *C. A. Ager*
 DATED: *1977* PROJECT # *Tenas*

DUPONT EXPLORATION
CANADA

TENAS PROJECT GRAVITY SURVEY

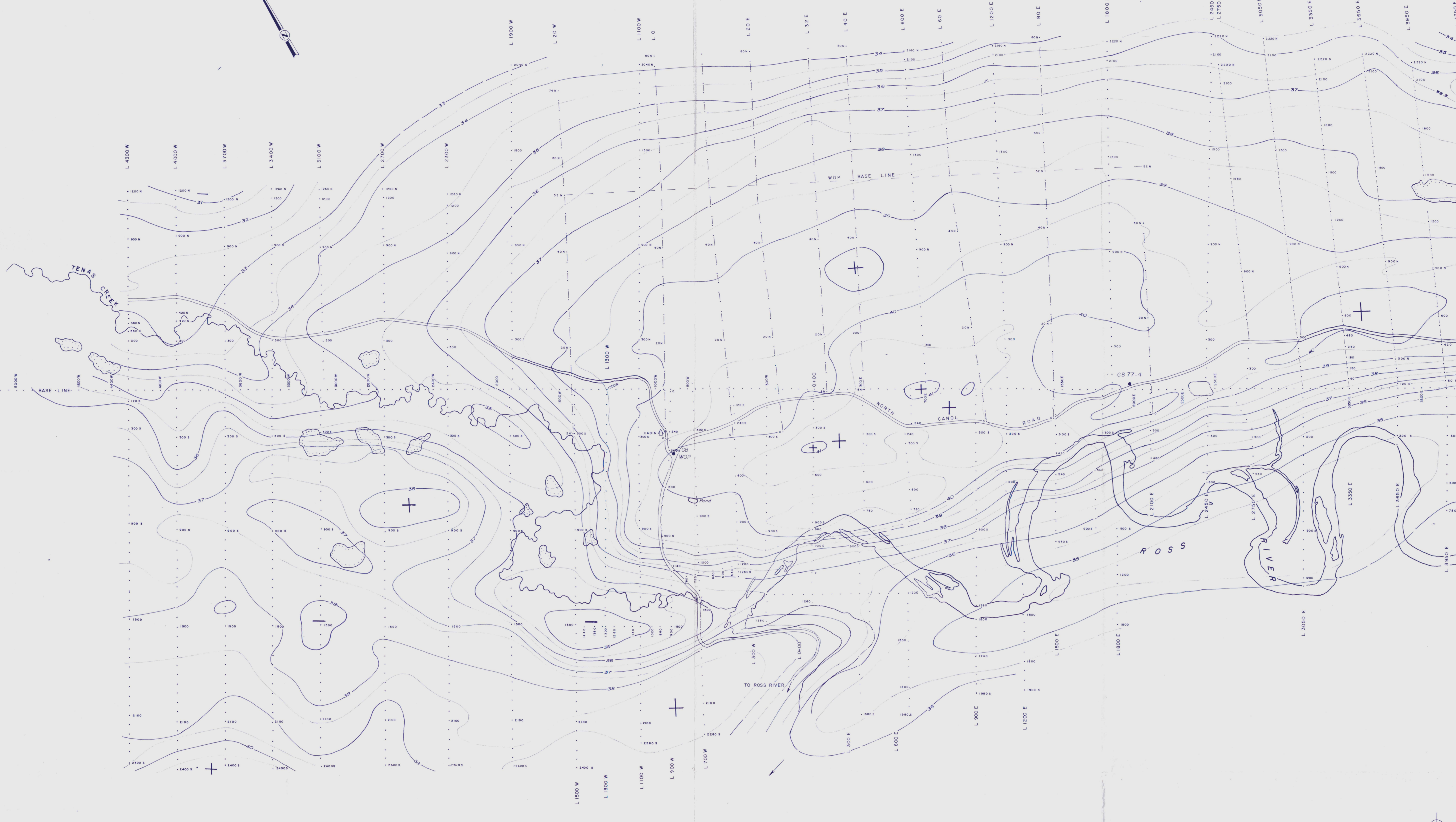
COMPLETE BOUGER GRAVITY

BOUGER DENSITY 2.80 g/cc
 ELEVATION FACTOR = 0.19128 mgal/meter
 TERRAIN RADIUS = 600 meters

C.A. AGER AND ASSOCIATES LTD

SCALE
 1" = 800 FEET

MAPPED BY: C.A. AGER	REVISED:	N.T.S. No. 105 K 1
DATE: APRIL 1977		ACCT No. TENAS
DRAWN BY: C.H.S.		DRWG No. 4-1
DATE: JULY, 1977		



LEGEND

- GB-WOP - GRAVITY BASE STATION
- ⊕ SURVEY GRID STATION
- 36 — GRAVITY CONTOUR IN MILLIGALS
- - - CONTOUR INTERVAL 50 MGALS.

WEST | CENTRAL | EAST
 4-1 | 4-1 | 4-1

SHEET INDEX

TO ACCOMPANY REPORT TITLED
Texas Project
Gravity Survey
 BY *C. Ager, P.D. Perry*
 DATED *7/77* PROJECT # *Texas*

DUPONT EXPLORATION
 CANADA

TENAS PROJECT GRAVITY SURVEY

COMPLETE BOUGER GRAVITY

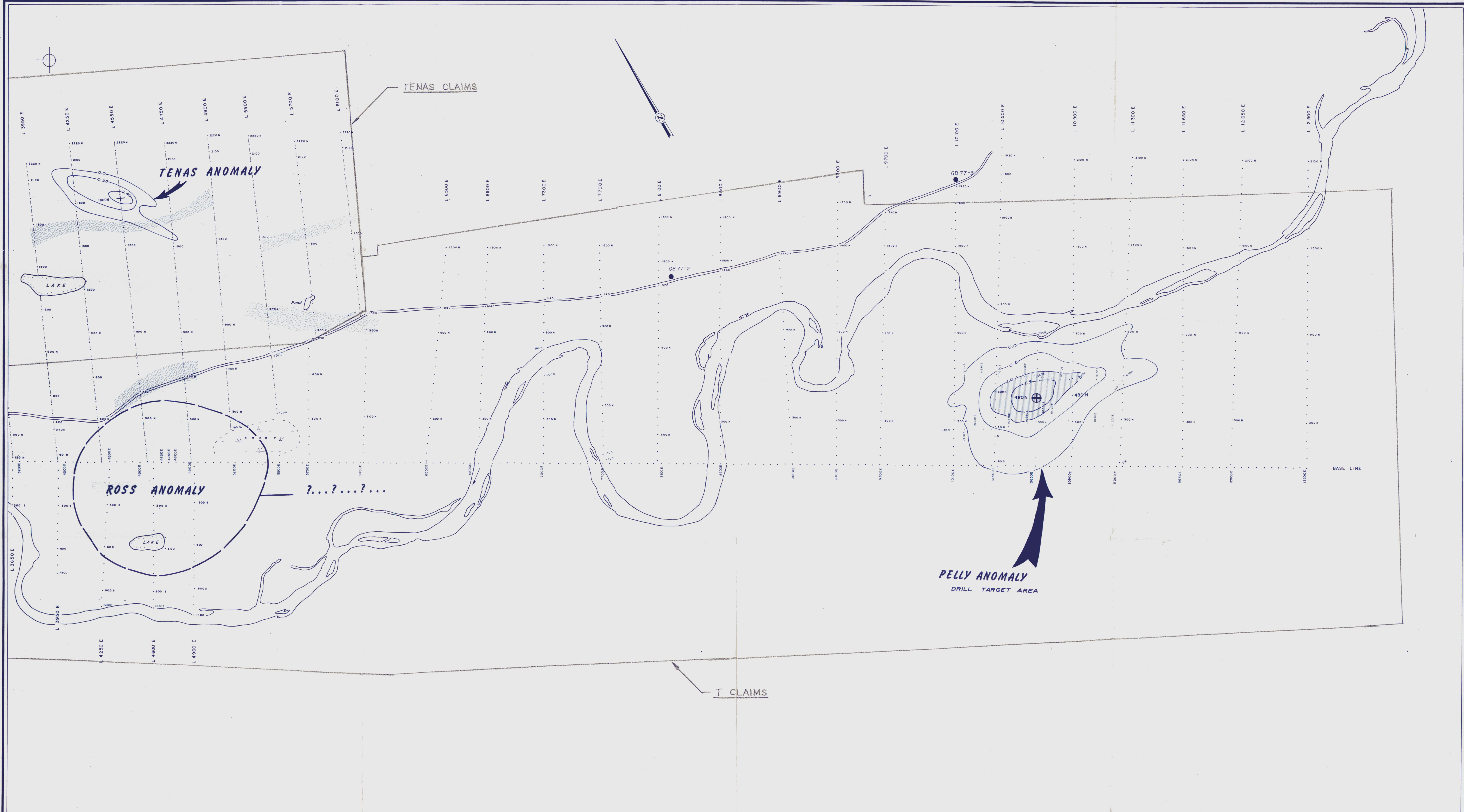
BOUGER DENSITY 2.80 g/cc
 ELEVATION FACTOR = 0.19128 mgal/meter
 TERRAIN RADIUS = 600 meters

C. A. AGER AND ASSOCIATES LTD.

MAP SCALE: 1" = 10,000'

MAPPED BY: C. A. AGER
 DATE: APRIL 1977
 DRAWN BY: G. H. S.
 DATE: JULY, 1977

REVISED: N.T.S. No. 105 K. 1
 ACCT No. TENAS
 DRWG No. 4-2



TENAS CLAIMS

TENAS ANOMALY

ROSS ANOMALY

.....?.....

PELLY ANOMALY
DRILL TARGET AREA

T CLAIMS

- LEGEND**
- GB 77-2 GRAVITY BASE STATION
 - SURVEY GRID STATION
 - 0.5 — RESIDUAL GRAVITY CONTOUR IN MILLIGALS
 - ▨ CONDUCTIVE ZONES (AFTER WALCOTT)

WEST	CENTRAL	EAST
	0-2	0-1

SHEET INDEX

TO ACCOMPANY REPORT TITLED
Tenas Project Gravity Survey
BY *C.A. Ager and Associates Ltd*
DATED *1977* PROJECT # *105 K I*

OUPON EXPLORATION
CANADA

TENAS PROJECT GRAVITY SURVEY

RESIDUAL GRAVITY MAP

C.A. AGER AND ASSOCIATES LTD

SCALE
1" = 10,000'
1" = 800 FEET

MAPPED BY: C.A. AGER	REVISED:	N.T.S. No.: 105 K I
DATE: APRIL 1977		ACCT No.: TENAS
DRAWN BY: C.N.S.		DRWG No.: 5-1
DATE: JULY, 1977		



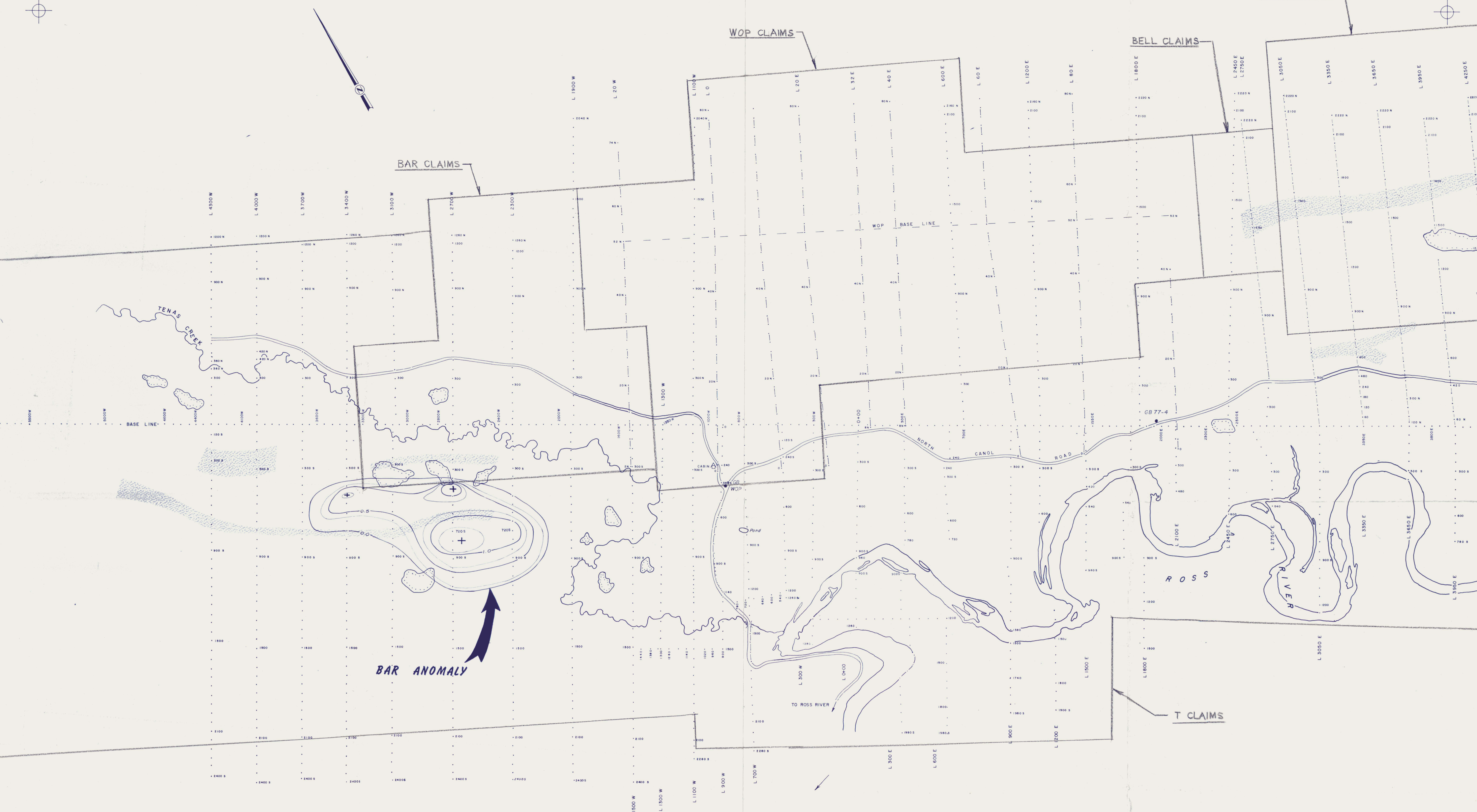
TENAS CLAIMS

WOP CLAIMS

BELL CLAIMS

BAR CLAIMS

T CLAIMS



BAR ANOMALY

- LEGEND**
- GB WOP GRAVITY BASE STATION
 - SURVEY GRID STATION
 - 0.5 — RESIDUAL GRAVITY CONTOUR IN MILLIGALS
 - ▨ CONDUCTIVE ZONES (AFTER WALCOTT)

WEST	CENTRAL	EAST
	5-2	5-1

SHEET INDEX

TO ACCOMPANY REPORT TITLED
Texas Project Gravity Survey
 BY *C. A. Ager, Ph.D. R.N.S.*
 DATED *1977* PROJECT # *Texas*

DUPONT EXPLORATION
 CANADA

TENAS PROJECT GRAVITY SURVEY

RESIDUAL GRAVITY MAP

C.A. AGER AND ASSOCIATES LTD.

MAPPED BY: C.A. AGER
 DATE: APRIL JUNE 1977
 DRAWN BY: C.H.S.
 DATE: JULY, 1977

N.T.S. No. 105 K 1
 ACCT No. TENAS
 DRWG No. 5-2

SCALE: 1" = 800 FEET

DU PONT OF CANADA EXPLORATION LIMITED



TENAS JOINT VENTURE

Report on Geochemical Soil Survey of the Project Area

T, TENAS, WOP, BAR and MAL Claims

$62^{\circ}03'N$, $132^{\circ}20'W$

NTS: 105-K-1

by

F. Marshall Smith, P.Eng

090262



*See Geological Report
for evaluation amount.*

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$ 43,492.33

J.B. Craig

~~Instructor, Geologist &~~

~~Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Commissioner of Yukon Territory

TABLE OF CONTENTS

- 1.0 INTRODUCTION
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 - 1.2 LOCATION
 - 1.3 CLAIMS
 - 1.3.0 List of Claims - Whitehorse Mining District
 - 1.3.1 List of Claims - Watson Lake Mining District
 - 1.4 Personnel List

- 2.0 TECHNIQUES
 - 2.1 SAMPLE SPACING AND GRID CONTROL
 - 2.2 SAMPLING TECHNIQUES
 - 2.3 ANALYTICAL SPECIFICATIONS

- 3.0 RESULTS
 - 3.1 SOIL PROFILE
 - 3.2 pH DETERMINATIONS
 - 3.3 STATISTICS
 - 3.4 MAPS - (In pocket)
 - 3.4.1 East Dwg. No. T.77-13
 - 3.4.2 Central Dwg. No. T.77-14
 - 3.4.3 West Dwg. No. T.77-15
 - 3.5 INTERPRETATION

- 4.0 STATEMENT OF QUALIFICATIONS

1.0 INTRODUCTION

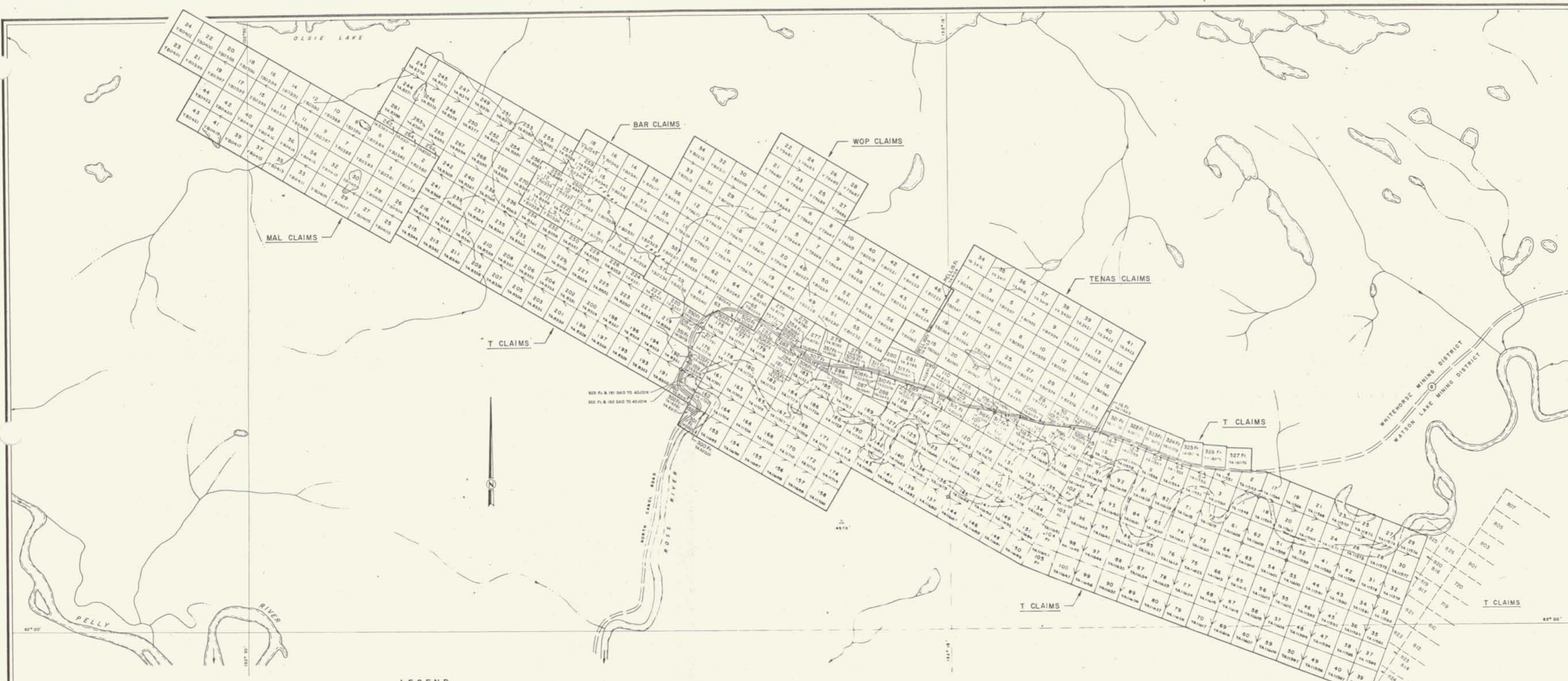
During the period May 15-June 30, 1977, Du Pont of Canada Exploration Limited carried out a programme of soil sampling on parts of the Tenas Project area which is shown on Map No.1.

1.2 LOCATION

The project area is approximately centered on the junction of Tenas Creek and Ross River, about 10 km east of the village of Ross River.

1.3 CLAIMS

Included in the project area are about 500 claims situated on both sides of the boundary between the Whitehorse Mining Division and the Watson Lake Mining Division, which is Yukon Highway 8 (North Canal Road).



- LEGEND**
- WELL LOCATED CLAIM POST
 - CLAIM LINE SHOWING DIRECTION OF STAKING
 - ▲ SPOT HEIGHT
 - 148313 GRANT NUMBER

DUPONT EXPLORATION
CANADA

**TENAS CREEK JOINT VENTURE
CLAIM MAP**
BAR, BELL, MALL, T & TENAS CLAIMS
TENAS CREEK AREA, YUKON TERRITORY

1:50,000
1 INCH = 5280 FEET

DATA BY: F.M.S.	REVISED: MAY 77	W.T.S. No. 105 K 1
DATE: SEPT. 77		ACTY No. 328-00
		DRWG. No. T.77-12

1.3.0

WHITEHORSE M.D. CLAIMS

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Dates</u>
T 108-111	YA8313-16	October 27, 1977
T 152	YA8317	October 27, 1977
T 153-158	YA11695-11700	October 28, 1977
T 159-160	YA8318, 8319	October 27, 1977
T 191-216	YA8320-8345	October 27, 1977
T 219-272	YA8346-8399	October 27, 1977
T 275-281	YA8779-8785	March 29, 1978
T 290	YA8786	March 29, 1978
T 302 Fr, 303 Fr	YA18061-18062	June 9, 1978
T 305 Fr	YA18063	June 9, 1978
T 307 Fr	YA18064	June 9, 1978
T 309 Fr	YA 18065	June 9, 1978
T 311 Fr	YA 18066	June 9, 1978
T 313 Fr	YA 18067	June 9, 1978
T 318 Fr, 319 Fr	YA18068, 18069	June 9, 1978
T 321 Fr-327 Fr	YA18070-76	June 9, 1978
T 350 Fr, 351 Fr	YA18077, 18078	June 9, 1978
T 353 Fr, 354 Fr	YA18079, 18080	June 9, 1978
T 357 Fr	YA18081	June 9, 1978
BAR 1-18	Y80328-Y80345	August 17, 1979
MAL 1-44	Y80379-Y80422	August 27, 1979
TENAS 1-33	Y80346-Y80378	August 27, 1979
TENAS 34-41	YA3416-YA3423	August 25, 1980
BELL 15 Fr, 16 Fr	YA4124-YA4125	December 8, 1977
WOP 1-28	Y79660-Y79687	July 22, 1980
WOP 29-66	Y80208-Y80245	August 16, 1980

cont....

WATSON LAKE M.D. CLAIMS

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Dates</u>
T 1-14	YA11548-61	October 27, 1977
T 15, 16 Fr	YA11562-63	October 28, 1977
T 17-100	YA11564-YA11647	October 28, 1977
T 101 Fr-105 Fr	YA11648-52	October 28, 1977
T 106-107	YA11653, 11654	October 28, 1977
T 112-151	YA11655-94	October 28, 1977
T 161-190	YA11701-11730	October 28, 1977
T 217-218	YA11731, 11732	October 28, 1977
T 282-289	YA12636-12643	March 30, 1978
T 300 Fr, 301 Fr	YA20201-20202	June 13, 1978
T 304 Fr	YA20203	June 13, 1978
T 306 Fr	YA20204	June 13, 1978
T 308 Fr	YA20205	June 13, 1978
T 310 Fr	YA20206	June 13, 1978
T 312 Fr	YA20207	June 13, 1978
T 314 Fr-317 Fr	YA20208-11	June 13, 1978
T 320 Fr	YA20212	June 13, 1978
T 352 Fr	YA20213	June 13, 1978
T 355 Fr, 356 Fr	YA20214, 20215	June 13, 1978
TENAS 100 Fr, 101 Fr	YA20197-20198	June 13, 1978
WOP 500 Fr, 501 Fr	YA20199-20200	June 13, 1978

1.4 LIST OF PERSONNEL

Samplers

Burnham, Peter J.
3536 West 47th Avenue
Vancouver, B.C.
V6N 3P1

Telephone No: (604)263-0707

Carlson, Michael R.
57 Anglesea Blvd.
Islington, Ontario
M9A 3B8

Telephone No: (416)239-4735

Hatfull, Christine A.
827 West 20th Street
North Vancouver, B.C.
V7P 2B5

Telephone No: (604)987-3507

Strain, David M.
29 Balmoral Drive
Sudbury, Ontario
P3A 2S3

Telephone No: (705)566-4279

Supervisor

F. Marshall Smith, P.Eng
Du Pont of Canada Exploration Limited
102 - 1550 Alberni Street
Vancouver, B.C.
V6G 1A5

2.0 TECHNIQUES

2.1 SAMPLE SPACING AND GRID CONTROL

Approximately 1400 soil samples were collected on the Tenas Project geophysical grid (with fill in lines) from the break of slope (Ross River and Tenas Creek banks) in central portion of the grid to the claim group boundaries on the north and south. Intermediate lines were run between the 1972-1974 geophysical grid (at 200 m intervals) on the WOP, MAL and TENAS claims, and over the "Pelly" gravity anomaly in the southeast corner of the map area. Stations are in general 100 m along lines 200 m apart except as noted above. The geophysical grid used for control was run by crews from C.A. Ager and Associates and consist of flagged lines at about 400 m spacing with 100 m stations. The base line was cut and chained by Eastern Associates.

2.2 SAMPLING TECHNIQUE

All samples were collected with a grub hoe from the "Be" horizon (see below), sample information recorded on sample bags and later on sample sheets and the material air dried in Ross River. Samples were trucked and air freighted to Min-En Labs in Vancouver where the -80 mesh fraction was analyzed for lead and zinc using nitric and perchloric digestion and atomic absorption analysis. All pulps are retained in Vancouver at Min-En Labs.

JUL 4 1977

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

2.3

ANALYTICAL REPORT

Project Date of report June 30/77.

File No. 4260 Date samples received June 28/77.

Samples submitted by: F. Smith

Company: DuPont of Canada Explorations

Report on: 130 soils Geochem samples

..... Assay samples

Copies sent to:

1. DuPont of Canada Expl., Vancouver, B.C.

2. DuPont of Canada Expl., Ross River, Y.T.

3.

Samples: Sieved to mesh -80 Ground to mesh

Prepared samples stored discarded

rejects stored discarded

Methods of analysis: nitric, perchloric digestion, Atomic Absorption

..... Analysis

Remarks:

SPECIALISTS IN MINERAL ENVIRONMENTS

3.0 RESULTS

3.1 SOIL PROFILE

<u>Soil Type</u>	<u>Definition</u>	<u>Thickness & Type</u>
AL	Leafy undecomposed	Variable to 0.1 m in poplar and birch areas.
AH	Decomposed plant material with soil.	Variable but 5.0 cm common and usually + 1 cm.
Ash (Cx)	Ash layer - exotic	1 to 3 cm throughout true soil areas but not evident on steep hillsides.
Bh	Soil with roots and minor humus usually oxidized in part.	10 cm to 2 cm, most roots of spruce in AH, thicker in burn areas covered with poplar.
Be	Oxidized soil horizon	Nil (gleysols and leucustrine zones) to 50 cm in sandy well drained areas.
C	Residum, glacial till, older leucustrine deposits moraines, kame terraces.	

3.2 DETERMINATION

Samples from random lines were used for pH determinations by the use of a Lamotte-Morgan wet pH kit. The primary variability was very low but what little was noted was due more to transported soils near the river than residual or boulder tills on the hillsides. The pH on the hillsides varied from 6.5-8.0 with a very large number of values 6.9-7.2. The soils from near the river tended to be 6.5-7.0 with most values about 6.8-7.0.

3.3 STATISTICS

Both elements show lognormal distribution of the values. Lead has a higher kurtosis (peakedness) than zinc which has its typical broad skew to the higher values. The following table was used to evaluate the distribution of the values on the map:

	<u>Pb</u>	<u>Zn</u>
Mean (geometric)	17.2	99.1
Mean + 0.33 standard deviation (log)	22.7	134.8
Mean + 0.67 standard deviation	30.0	183.3
Mean + 1.00 standard deviation	39.6	349.4
Mean + 1.33 standard deviation	52.2	339.3
Mean + 1.67 standard deviation	69.0	461.5
Mean + 2.00 standard deviation	91.0	627.9

3.5 INTERPRETATION

Zinc and particularly lead values of interest cluster around or near the gravity features e.g "Pelly Anomaly" south of Ross River and the Tenas and Wop zones north, east and west of the andesite dome. The geochemically anomalous zones in the upper Tenas Creek, MAL claims area are as yet unsubstantiated by gravity surveys.

No true anomalous zones occur within the project area. The geochemistry can only be used in conjunction with geophysics in defining areas of interest.

4.0 STATEMENT OF QUALIFICATIONS

I, F. Marshall Smith, of 6580 Mayflower Drive, Richmond, British Columbia, Canada give oath and say that:

1. I am a geologist having practised my profession for 10 years in Yukon and British Columbia.
2. I am a registered Professional Engineer of the Province of British Columbia.
3. I am a member of the Association of Exploration Geochemists and have worked and acted as an exploration geochemist for 10 years.
4. I am a Fellow of the Geological Association of Canada.
5. I personally trained the personnel and supervised, managed and interpreted the geochemical soil sampling programme on the T, TENAS, BAR, BELL, WOP and MAL claims covered by the report from May 6, 1977 to October 25, 1977.



F. Marshall Smith, P.Eng.

B.C. #10,520

TENAS CLAIMS

T CLAIMS

LEGEND

- T SURVEY GRID - 1977
- TENAS SURVEY GRID - 1974
- WOP SURVEY GRID - 1974
- 26+132 LEAD IN PPM TO LEFT OF SAMPLE POINT
- ZINC IN PPM TO RIGHT OF SAMPLE POINT
- CLAIM BLOCK BOUNDARY (APPROXIMATE)

WEST DRWG No. T.77-15	CENTRAL DRWG No. T.77-16	EAST DRWG No. T.77-13
--------------------------	-----------------------------	--------------------------

SHEET INDEX

DUPONT EXPLORATION
CANADA

TENAS CREEK JOINT VENTURE
GEOCHEMICAL SOILS
LEAD & ZINC IN P.P.M.
BAR, BELL, MAL, T, TENAS & WOP CLAIMS
TENAS CREEK AREA, YUKON TERRITORY

SCALE: 1" = 10,000'

DATA BY: F.M.S. REVISED: N.T.S. No: 105 K I
 DATE: Jun-Jul '77 ACCT No: 326-04
 DRAWN BY: K.L.J.
 DATE: Oct '77 DRWG No: T.77-13



TENAS CLAIMS

WOP CLAIMS

BELL CLAIMS

BAR CLAIMS

T CLAIMS



LEGEND

- T SURVEY GRID - 1977
- TENAS SURVEY GRID - 1974
- . - . - . WOP SURVEY GRID - 1974
- 36 + 132 LEAD IN PPM TO LEFT OF SAMPLE POINT
ZINC IN PPM TO RIGHT OF SAMPLE POINT
- CLAIM BLOCK BOUNDARY (APPROXIMATE)

WEST CENTRAL EAST
DRWG NO. T.77-15 DRWG NO. T.77-16 DRWG NO. T.77-13

SHEET INDEX

DUPONT EXPLORATION
CANADA

TENAS CREEK JOINT VENTURE
GEOCHEMICAL SOILS
LEAD & ZINC IN PPM.
BAR, BELL, MAL, T, TENAS & WOP CLAIMS
TENAS CREEK AREA, YUKON TERRITORY

m 300 600 900 1200 1500 1800 2100 2400
INCH 0 1 2 3 4 5 6 7 8 9 10
SCALE

DATE BY: F.M.S. REVISED: N.T.S. No. 105 K I
DATE: Jun-Jul 77 ACCT No. 326-00
DRAWN BY: K.L.J.
DATE: Oct 77 DRWG No. T.77-14

DU PONT OF CANADA EXPLORATION LIMITED

TENAS JOINT VENTURE

Report on Geology of Project Area

T, TENAS, WOP, BAR and MAL claims

62°03'N, 132°20'W

NTS: 105-K-1

by

G.M. Ditson, L.K. Eccles, G. McLaren

Conducted under the supervision

of

F. Marshall Smith, P.Eng

and

K.A. MacLean, P.Eng

November, 1977



090262 .



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

~~43,492.33~~ 50,895.65

ABC.

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Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under
Section 53 (4) Yukon Quartz Mining Act.

MAX. ALLOWABLE \$21,519.47 WHITEHORSE DISTRICT
MAX. ALLOWABLE \$21,376.17 WATSON LAKE DISTRICT

B. R. BAXTER
Supervising Mining Recorder

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Commissioner of Yukon Territory

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1.0 INTRODUCTION

1.1 DESCRIPTION OF PROGRAMME

The 1977 programme included approximately one months work by three graduate geologists who set out to map the sparse outcrops occurring on the TENAS, WOP, MAL, BAR and T claim blocks. These claim blocks were united into one project area by Du Pont of Canada Exploration Limited under agreements with Welcome North Mines Limited, Teck Mining Corporation and R.E. Chaplin. The T claims were staked by Du Pont late in 1976 and early in 1977, while the TENAS, WOP, MAL and BAR were all staked prior to 1973.

The reader should realize that the object of this ongoing programme is to find massive sulphide deposits of the Anvil Range type, and that the geological mapping was done to help delineate permissive rock units. Thus the volcanic centres and their proximal and distal sediments received the most detailed geological investigation. In addition to the mapping, the 1977 programme included geochemical soil sampling by the Du Pont field crew, a gravity survey over a large part of the claim block by C.A. Ager and Associates and 610 m of diamond drilling.

This report is intended primarily to fulfil requirements of the Yukon Quartz Mining Act for recording of representation work on the T claims, although geological mapping covered the TENAS, WOP and BAR claims to some extent. Under the conditions of the Act, only physical work such as drilling or bulldozing can be claimed as representation after three years from the recording date, but the reader should be aware of the work done on the older claims and its value to interpreting the geology of the T claims.

The three geologists mapped different sectors of the project area under the supervision of F.M. Smith, P.Eng (BC). K.A. MacLean, P.Eng (BC) compiled and edited this report which was jointly prepared by the authors.

1.2 LOCATION AND ACCESS

The location of the field area is shown in Figure 1, lying almost entirely within N.T.S. sheet 105-K-1, and approximately 10 km north of the community of Ross River. The mouth of Tenas Creek, a centrally located feature, lies at 62°03' north latitude; 132° 20' west longitude. From this point the area stretches approximately 13.8 km to the southeast and 11 km to the northwest and averages 3.5 to 5 km in width. The North Canal Road (Highway 8) traverses the southeastern half of the property and marks the boundary between the Whitehorse Mining District to the north and west and the Watson Lake Mining District to the south and east. This road also provides direct access by truck to much of the property.

The Ross River which also traverses half of the property, made the use of an aluminum boat necessary, and to a limited extent, provided access to various points along its banks.

The northwestern half of the property is traversed by a number of old cat roads in a moderate state of disrepair, and these were expected to provide access to the northwestern portion of the T group and to the Mal group. However, the Muskeg Bombardier contracted for this purpose proved totally unreliable, therefore helicopter support was required from Ross River for crew mobilization into the more remote areas.

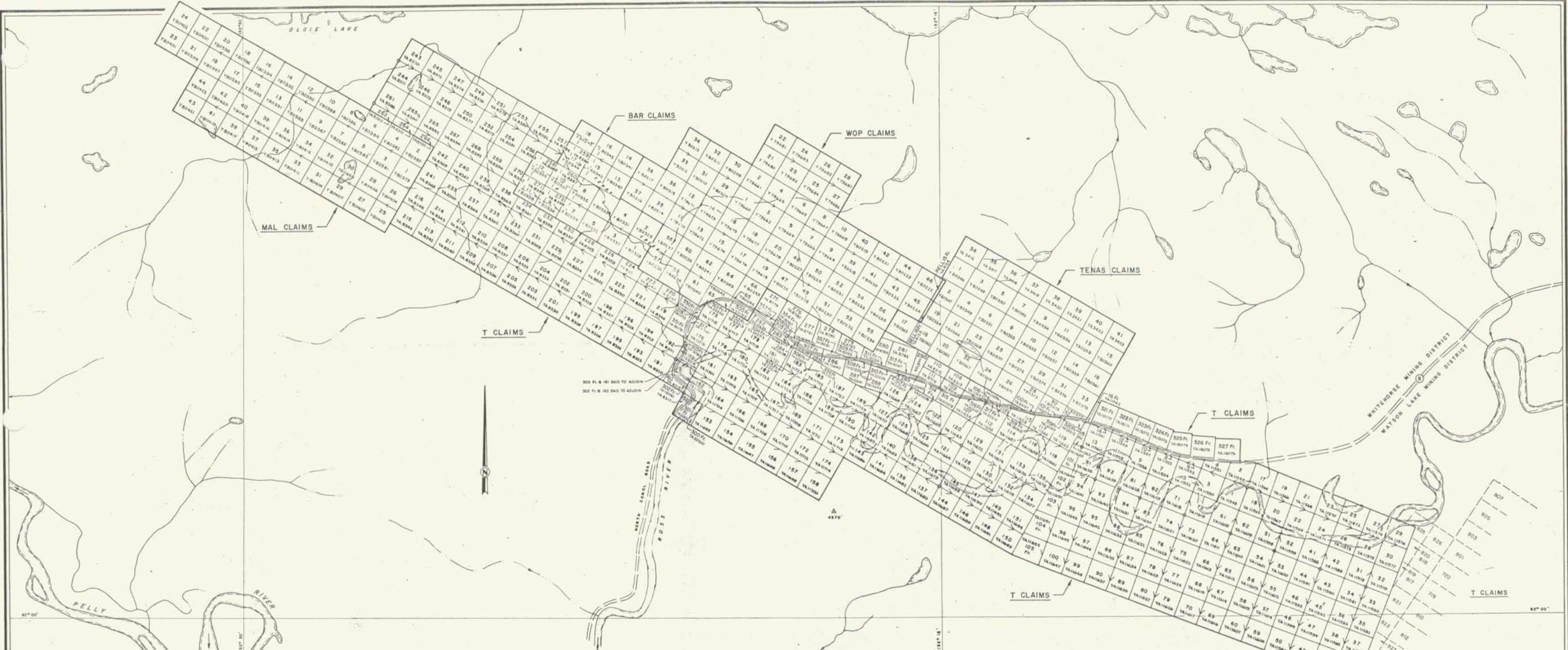
WHITEHORSE M.D. CLAIMS

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Dates</u>
T 108-111	YA8313-16	October 27, 1977
T 152	YA8317	October 27, 1977
T 153-158	YA11695-11700	October 28, 1977
T 159-160	YA8318, 8319	October 27, 1977
T 191-216	YA8320-8345	October 27, 1977
T 219-272	YA8346-8399	October 27, 1977
T 275-281	YA8779-8785	March 29, 1978
T 290	YA8786	March 29, 1978
T 302 Fr, 303 Fr	YA18061-18062	June 9, 1978
T 305 Fr	YA18063	June 9, 1978
T 307 Fr	YA18064	June 9, 1978
T 309 Fr	YA 18065	June 9, 1978
T 311 Fr	YA 18066	June 9, 1978
T 313 Fr	YA 18067	June 9, 1978
T 318 Fr, 319 Fr	YA18068, 18069	June 9, 1978
T 321 Fr-327 Fr	YA18070-76	June 9, 1978
T 350 Fr, 351 Fr	YA18077, 18078	June 9, 1978
T 353 Fr, 354 Fr	YA18079, 18080	June 9, 1978
T 357 Fr	YA18081	June 9, 1978
BAR 1-18	Y80328-Y80345	August 17, 1979
MAL 1-44	Y80379-Y80422	August 27, 1979
TENAS 1-33	Y80346-Y80378	August 27, 1979
TENAS 34-41	YA3416-YA3423	August 25, 1980
BELL 15 Fr, 16 Fr	YA4124-YA4125	December 8, 1977
WOP 1-28	Y79660-Y79687	July 22, 1980
WOP 29-66	Y80208-Y80245	August 16, 1980

cont....

WATSON LAKE M.D. CLAIMS

<u>Claims</u>	<u>Record Nos.</u>	<u>Expiry Dates</u>
T 1-14	YA11548-61	October 27, 1977
T 15, 16 Fr	YA11562-63	October 28, 1977
T 17-100	YA11564-YA11647	October 28, 1977
T 101 Fr-105 Fr	YA11648-52	October 28, 1977
T 106-107	YA11653, 11654	October 28, 1977
T 112-151	YA11655-94	October 28, 1977
T 161-190	YA11701-11730	October 28, 1977
T 217-218	YA11731, 11732	October 28, 1977
T 282-289	YA12636-12643	March 30, 1978
T 300 Fr, 301 Fr	YA20201-20202	June 13, 1978
T 304 Fr	YA20203	June 13, 1978
T 306 Fr	YA20204	June 13, 1978
T 308 Fr	YA20205	June 13, 1978
T 310 Fr	YA20206	June 13, 1978
T 312 Fr	YA20207	June 13, 1978
T 314 Fr-317 Fr	YA20208-11	June 13, 1978
T 320 Fr	YA20212	June 13, 1978
T 352 Fr	YA20213	June 13, 1978
T 355 Fr, 356 Fr	YA20214, 20215	June 13, 1978
TENAS 100 Fr, 101 Fr	YA20197-20198	June 13, 1978
WOP 500 Fr, 501 Fr	YA20199-20200	June 13, 1978



- LEGEND**
- WELL LOCATED CLAIM POST
 - CLAIM LINE SHOWING DIRECTION OF STAKING
 - △ SPOT HEIGHT
 - Y8313 GRANT NUMBER

DU PONT EXPLORATION
CANADA

**TENAS CREEK JOINT VENTURE
CLAIM MAP**
BAR, BELL, MALL, T & TENAS CLAIMS
TENAS CREEK AREA, YUKON TERRITORY

SCALE
1 INCH = 5280 FEET

DATA BY: P.M.R.	REVISED: MAY 77	N.T.S. No. 108 R 1
DATE: _____		ACTY No. 288-00
DRAWN BY: K.L.A.		DRWS No. T.77-10
DATE: SEPT. 77		

1.4 TOPOGRAPHY AND VEGETATION

Most of the central axis of the field area lies in a broad valley containing the Ross River and Tenas Creek. River elevations are at approximately 800 m a.s.l. Outside of the relatively flat valley floor, delineated through parts of the area by steep sandy slopes and benches, the land slopes upward, moderately at first but becoming steeper and reaching 1300 m and 1100 m a.s.l. on the north and south flanks respectively.

The Ross River and Tenas Creek valleys are locally swampy, with many oxbow lakes and old meander scars, and tend to be thickly vegetated with willows, young spruce and poplar. The vegetation on the upper slopes vary from thick spruce and poplar bush to open stands of tall poplar in old burn areas.

A thick glacial till blankets the entire area, producing a number of sinuous sandy slopes topped by flat benches representing glacial strandlines. This material effectively masks most of the bedrock except where it has been locally removed by downcutting streams or where knolls in bedrock topography protrude. The resulting outcrop pattern is extremely sparse and sporadic, as can be seen from the geology map which accompanies this report.

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2.0 GEOLOGY

2.1 INTRODUCTION

A discussion of the geology will be broken down into descriptions of important units, followed by generalized regional overview and geologic history.

Regional geologic, and particularly structural, interpretations are greatly impeded by the lack of outcrop since extrapolation of features between outcrops is highly tenuous.

2.2.0 Geologic History

Hypabyssal andesites, andesite flows and tuffs, followed by intercalated extrusive andesite and rhyolitic tuffs, laid down in a subaqueous basin, were later overlain by greywackes and phyllites derived from the weathering of the continental platform found further to the northeast.

Following deposition of the greywackes, conglomerates then intercalated red and green cherts were deposited. Later, some Jurassic volcanic rocks of andesitic and basaltic composition were deposited. These younger cherts and volcanics were dominantly found in the south central section of the mapped area.

The youngest known rocks found in the area are Cretaceous intrusions of quartz monzonite and quartz feldspar porphyry. These rocks are found mostly in the northern part of the mapped area.

2.2.1. Table of Formations

<u>Map Unit</u>	<u>Age</u>	<u>Type</u>	<u>Description</u>
1	Cretaceous	Granitic rocks	Intrusive contacts into sediments and volcanics. Quartz monzonite and quartz monzonite porphyry. Disseminated pyrite and traces of malachite. Mostly along northern edge of clay blocks.
Intrusive contact with younger rocks			
2	Jurassic	Red Chert, green chert, green basalts, andesites Rhyolitic fragmentals. Red and green slates conglomerates.	
3	Unknown	Andesite	Fine grained massive pale to dark green andesite flows. Calcareous matrix Pyrite cubes. Local serpentine and talc alteration, chloritic alteration. Intercalates with Unit 4 Local small domes of andesitic composition.
4	Unknown	Rhyolites	Consider as proximal sediments. Sporadic occurrence Local pods intercalates with andesites and distal phyllites. Massive foliated or bedded in textures Sedimentary structures. Calcareous locally.
5	Unknown	Distal Sediments	
		Greywacke	dark grey, phyllitic, pyritic, cherty.
		Pearly grey phyllites.	thinly laminated, micaceous, occ graphitic
		Phyllitic argillites.	quartz veins and sulphide pods and veins.

2.3 GRANITICS - UNIT 1

The youngest rocks in the area are Cretaceous intrusives related to the large batholith to the north. Along the main contact, intruded sediments and volcanics are metamorphosed and riddled with aplitic, porphyritic and pegmatitic dykes. Quartz veins and lenses also become prominent as the intrusive contact is approached. Composition appears to be that of a quartz monzonite, and textures vary considerably. Outcrops at the north ends of lines 8900 and 9300 E expose intrusives invaded by aphanitic rhyolite dykes along N-S fractures.

Quartz feldspar porphyry is composed of euhedral, doubly-terminated quartz crystals, potassium feldspar, hornblende and biotite in a fine to medium grained feldspathic or pale green/grey aphanitic groundmass. Disseminated pyrite can be seen and locally traces of malachite are present.

In the north central part of the Mal group a tongue of the quartz feldspar porphyry intrudes into andesite, and is split by a north-south trending fault producing 2 small scarps 5 m high and up to 20 m wide. The andesites and sediments adjacent to the intrusion have been metamorphosed to either a quartz mica schist with large biotite grains defining a pronounced schistosity, or to a thinly banded gneiss consisting mainly of quartz, some feldspars and biotite.

2.4 JURASSIC ROCKS - UNIT 2

Jurassic rocks which overlie the older sedimentary package consist of volcanics and minor sediments which are easily distinguished from other units in the area. As granites bound sediments to the north, Jurassic rocks bound them to the south; the southwestern portion of the 1977 survey grid covers a considerable area of these rocks which tend to form resistant ridges.

Rock types included in this unit are red chert (jasper), green volcanics ranging from rhyolite to basalt, and conglomerate. Red chert makes up the majority of outcrop, volcanics and conglomerate being subordinate in exposed extent.

Jasper is the most easily recognized as it tends to be massive, brick-red, and shot with milky white quartz veins which sometimes carry minor black hematite. Green chert has been seen inter-layered with jasper, which, along with an intimate association with volcanics, is suggestive of an igneous origin.

A 2 m high scarp at the south end of line 700W reveals massive jasper overlain by a green fragmental unit of sheared pale rhyolite and darker andesite, which is in turn overlain by a unit of sheared, mixed red and green slates. Foliations and contacts are close to flat-lying. Other outcrops of pale green rhyolite may show bomb-like, sheared fragments up to 10 cm in length. More basic volcanics are found between lines 300 and 900E on the south side of the river, where they are very fine grained black to dark green basalts and andesites.

Conglomerate, the basal unit of the Jurassic formations, is rather limited in outcrop extent, appearing mainly near the major curve in the Canol Road west of the Ross River near Tenas Creek.

Well-rounded pebbles within the dark grey/black conglomerate are often elongate, about 2 mm to 5 cm in diameter, and are embedded in a matrix of sandy greywacke. One outcrop showed coarse, sandy layers with fine (less than 5 mm) pebbles alternating with coarser layers with much large pebbles. Many clasts are felsic, often with considerable pyrite; black, slaty clasts are also not uncommon, and one andesitic fragment was seen. Outcrops are usually massive, but may take on a pronounced fracture cleavage. This unit is also seen to lose its pebbly character near line 300W (south end) where it becomes a massive, dark grey rock with anastomosing quartz/carbonate veinlets.

2.5 ANDESITE - UNIT 3

The andesite unit is distributed across the entire area, with large areas of outcrop located in the southeast quadrant of the Wop group and the adjacent T group, in the T group south of Thunder Pickle Creek, and in the eastern half of the Mal group.

The rocks can vary appreciably across the area, ranging from a medium grained hypabyssal equivalent in the cores of the volcanic domes, through massive flow-type greenstones, to an andesitic tuffaceous material further out on the dome flanks where this member intercalates with rhyolites, rhyolitic tuffs and some proximal phyllitic sediments.

The subunit most commonly found appears to be a fine grained, massive, pale to dark green, andesitic greenstone, likely of flow origin. Texturally, it is unvaried throughout, but a calcareous matrix, complete with calcite and/or siderite veinlets, is common, as are euhedral pyrite cubes which may be particularly associated with the carbonates. Small pods and spots of alteration to serpentine and talc may locally be found around inclusions of a black, more basic basaltic material. In a few cases this alteration has developed small patches of serpentine asbestiform minerals.

Chlorite characterizes a much more common alteration assemblage, and leads to an increasing degree of foliation in the rock. This may partially reflect a larger tuffaceous, slightly less resistant component, of the andesites. Grey to green, foliated metaandesite, with a well-developed fracture cleavage and a higher carbonate and chlorite content most likely represents the original andesite tuff, which now has a more phyllitic texture. This member intercalates with pale green, banded to massive, rhyolitic tuffs and/or a pearly dark grey phyllitic argillites of Unit 4.

The andesite dome matrix material is evident in a few locations across the area. South of Thunder Pickle Creek, a medium to coarse grained intrusive-textured rock outcrops with the massive andesites. Here a pale green to dark grey mottled texture is produced by biotite, amphibole and pyroxene crystals distributed through a matrix of plagioclase and minor quartz. The mafic minerals tend to be well chloritized. Overall the texture is gabbroic and locally hornblende becomes sufficiently dominant to produce amphibolite. Disseminated pyrite is almost always present throughout all phases and produces limonite weathering surfaces and fracture coatings. This core material grades very quickly into the massive flow type andesites.

A similar dome of andesitic material outcrops for 2/3 of the way around and on top of a hill located on line 3050E, at 1650N. Here a massive green andesite, in part displaying a hypabyssal texture, composes the crest of the hill and represents the core, dome matrix material. Flanking this, both in the sense of the hill and in relation to the dome, is a series of rocks, each of which intercalates with its successor, composed of andesitic greenstones of probable flow origin, calcareous andesitic tuffs, local pods of rhyolitic tuffs, and finally, grey graphitic and calcareous phyllites. These rocks appear to exhibit well the nature of the local andesitic domes distributed through the field area.

In the southeast quadrant of the Wop grid the core rocks seem slightly less basic than those south of Thunder Pickle Creek, never having enough hornblende to produce amphibolitic rocks. These rocks are also well chloritized perhaps accounting for the less amount of noticeable pyroxenes and amphiboles.

A minor constituent of the proximal sedimentary package is the felsic volcanic member which can be either massive, foliated and/or banded in texture and rhyolitic in composition. The rocks are quite sporadic throughout the field area and appear to occur as localized bands or pods intercalating with both the andesites and the more distal grey phyllites.

The massive variety, observed only on the south side of Ross River tends to be pale grey to white, highly siliceous with small quartz eyes, and often contains much disseminated euhedral pyrite cubes producing a limonitic weathering. Locally this member may take on a slight foliation and develop pale green to chalky white alteration bands composed of chlorite, talc, and perhaps sericite. This more phyllitic member becomes calcareous in part due to thin calcite veinlets.

The banded rhyolites seen only on the north side of Ross River are very fine grained showing well developed bedding as well as other sedimentary structures such as load casts and graded bedding. Alternating light and dark bands often displayed differential weathering indicating carbonate-rich layers. Staining showed that the layers between calcic and potassic composition. The rock is very hard and quite siliceous, often having the typical, powder white, weathered surface of rhyolites. Small scale folds with amplitudes in the order of tenths of metres showed up very well in these rocks.

2.7 DISTAL SEDIMENTARY UNIT - UNIT 5

The distal sediments form a medium to very fine grained, laminated unit, composed mainly of a dark grey, turbiditic, phyllitized wacke, and a dark grey, fissile, argillaceous phyllite which hosts the only mineralization observed in the area.

They are exposed throughout the field area and appear to develop during periods of relative volcanic quiescence on the flanks of and in pockets peripheral to the andesitic dome centres. Due to the fairly small size of some of the domes these rocks may be found quite close to a massive andesite, possibly to the exclusion of the normally intervening, proximal sediments. Rhyolites and rhyolitic tuffs may intercalate with this unit but they are considered more proximal in origin and, hence, rock descriptions in this section are limited to the grey phyllite and greywackes.

2.7.0 Greywacke

2.7.1.1. Lithology and distribution

A major portion of the distal sediments are dark grey phyllitic greywackes. In hand specimen samples are seen to be composed of quartz and biotite; thin section examination confirms the composition, showing mica and elongate quartz aligned in a herring-bone manner. Grain size is usually fine, but gritty, medium grained components are common. Biotite varies in amount, is usually concentrated along cleavage planes, and lends rocks a schistose character when coarse-grained. Foliations vary in intensity from less than 1 mm to 6 cm, and infrequently are absent altogether when rocks take on a massive, cherty appearance. Colour may also vary on a small scale from dark to light grey, to greys with green or pink tinges. Iron-staining is not uncommon, and occurs to varying degrees, often a result of fine, visible disseminated pyrite occurring along foliation planes and/or fracture surfaces. Quartz veining is frequently seen as fine stringers parallel to foliations, but may also occur as larger (up to 10 cm wide) veins.

The major occurrence of these sediments is on the south-facing slope of the Ross River valley, north of the Canol Road. In the far western corner of the Mal claims porphyritic dykes intrude rocks which are similar to these greywackes, but are highly deformed and should more properly be termed gneisses and schists. However, alteration here resembles portions observed below the major intrusive contact north of the Canol Road (see below "Intrusive Effects), and small areas of recognizable greywacke were seen.

Outcrops around 200S on line 5900W reveal medium grey, slaty, unphyllitized argillites assumed to be less metamorphosed equivalents of the main greywacke unit.

2.7.1.2 Intrusive effects

The intrusion of Unit 1 has resulted in slight alterations of the sediments which become more evident as one approaches the intrusive contact. Phyllites may take on a gneissic appearance either as fine (2 mm) light and dark (some pure biotite) bands or as wide (2 cm) alternating bands of coarse biotite and milky quartz. Finer-grained gneisses may appear to be augened.

Another common product of the intrusion is a coherent, silicic sediment which has lost its foliated appearance in favour of a massive, undirected texture. It was on the surface of a sample such as this that blue kyanite crystals (1 cm in length) were seen.

2.7.1.3 Structures

As mentioned earlier, thin section study reveals a herringbone structure of quartz and biotite. This texture may be interpreted as a primary alignment of components which has been modified by foliations perpendicular to it. This secondary foliation has altered originally plan surfaces into chevron patterns, the apices of which form the major foliation direction seen in the field.

Lineations, foliations and minor warping are the major macroscopic structural features within the greywackes. Lineations were not always measured because of their frequent inconsistency, but they can be quite regular and easily visible on cleavage surfaces.

Foliations were described briefly above on a small scale, but on a larger scale they can be seen to trace a major warp on the north side of the Canol Road. Lineations tracing the axis of this warp ($52^{\circ}/35^{\circ}$ W) are visible along a folded surface of 0.5 metre amplitude above station 1780N along line 4550E. Foliation east of the general axis area usually strike northwest; to the west strikes are more northeasterly.

In foliations north of the Canol Road create a dip slope along the hillside, minor warping perpendicular to major foliations is easily visible. Frequencies are normally around 2 metres; amplitudes 10 cm.

2.7.1 Distal Sediments

2.7.2.1 Pearly grey phyllites, phyllitic argillites

This member of the distal sedimentary package generally consists of a thinly laminated, dark grey to silver pearly grey, graphitic and argillaceous shale which is intercalated with a grey to white, medium to fine grained siliceous siltstone. These rocks are usually sheared and phyllitized with slickensided graphitic or micaceous laminae developing along shear planes or as independent thin bands a few millimeters to a few centimeters thick. The high graphite content produces a grey-black oily lustre while the development of micaceous-sericitic partings produces the common pearly grey lustre. Normally they are quite calcareous and contain disseminated pyrite throughout as discrete grains or as thin laminae, producing very rusty weathering lamellae. Quartz is commonly present as small eyes, stringers or veins, or even large gashes and boudins up to 60 cm across in areas of more intense faulting. Calcite and/or siderite is associated with the quartz and locally may become dominant in veins. The siltstone member may become much coarser and richer in quartz fragments, as in the area of 6150W on the baseline where it appears to grade towards a graphitic wacke member, suggesting an oscillatory relation between the grey phyllites and the wackes.

Structurally, these graphitic phyllites are either flat lying or dip gently in a general sense. However, in small scale, there are abundant crenulations only a few millimeters in amplitude, as well as many tight isoclinal folds up to 2 cm in amplitude. Any quartz veins present suffer this recumbent folding as well, and, in areas of more intense distortion, may develop boudinage structures, or individual quartz grains may be stretched in the core of some anti-formal structures. Shearing can be intense and appears to be subparallel to the original sedimentary banding, however this is difficult to see clearly due to the slaty cleavage developed in response to the compressive shear forces.

Outcrops of this unit occur sporadically across the area with clusters in the Mal group, in the northern part of the Wop group, and, as mentioned, in the T group in the vicinity of Thunder Pickle Creek.

2.7.2.2 Mineralization

A large north-south trending vertical fault cuts these flat lying grey phyllites to produce the Thunder Pickle Creek gorge, as though dilatancy, is likely responsible for the large quartz veins and boudins and the outcropping mineralization here. Abundant chunks of massive sulphide float, weighing as much as 23 kg, and consisting of varying amounts of pyrite, pyrrhotite, galena, sphalerite, chalcopyrite and arsenopyrite, persist for the length of the gorge, however no obvious source for these could be found. Thin sulphide bands, 5-10 cm thick and continuous for up to 50 m occur within the grey phyllites on canyon walls and appear to be concordant with the shaly laminations. These mostly consist of fine grained pyrite with sphalerite, or a distinct yellow and grey, punky alteration material which is cored by fresh galena.

Towards the mouth of the gorge one highly silicified, quartz rich zone outcrops over a small area, with sulphide mineralization. The silicified zone, having been exposed by hydraulic methods, is approximately 2 m thick and appears to dip at approximately 45°, this being strongly discordant with the horizontal graphitic phyllites 5 m away on the opposite wall of the gorge. The underlying grey graphitic sediments, and those across the creek reveal no similar sulphides. The silicified zone itself is essentially quartz with abundant disseminated pyrite grains and cubes, plus some arsenopyrite grains. One highly pyritized layer is well gossanized, having developed good boxwork textures coated in fine gypsum crystals. The prime sulphide specimens come from a vertically fractured zone and consist of coarse grained galena and pyrite plus medium to fine grained sphalerite and arsenopyrite. Siderite is a common accessory. Traces of pyrrhotite hosted in pearly grey phyllites were located in the next creek to the west, but no extensions could be found.

3.0

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Louise Eccles graduated from the University of British Columbia in April of 1976 with a degree of Bachelor of Science. During the summer of 1974 and 1975 Louise worked in the field with Cyprus Anvil Mining Corporation and Du Pont of Canada Exploration Limited respectively. With Du Pont again in 1976, Louise was a senior field geologist on a project in the Northwest Territories and conducted extensive geologic mapping of volcanic rocks. Earlier in 1977, Louise worked on a programme of drilling for placer gold near Atlin, BC for Du Pont. She has also performed assignments for the G.S.C. and junior mining companies in Vancouver.

Graeme P. McLaren
104 - 3611 West 16th Avenue
Vancouver, BC
V6R 3C3

Telephone No: 278-9956

Graeme earned a B.Sc.(Hons.) in Geology at the University of Toronto in 1974. During the summer of 1972 he worked as a lab technician in a geochemical analytical laboratory, while in 1973, he worked on detailed mapping of claim groups and regional prospecting in Northwest Ontario with Selco Exploration. In 1974, he gained experience in the oil exploration industry, working as an assistant wellsite geologist and measuring sections for Westcoast Petroleum Ltd. In 1975, working for McIntyre Porcupine Mines Ltd. Graeme measured and correlated stratigraphic sections on the company's property. In 1976 he began his association with Du Pont of Canada Exploration Limited, as a senior field geologist mapping volcanic sequences in a massive sulphide search in the Northwest Territories.

Graeme is currently working towards a Master of Science degree at the University of British Columbia.

Gwendolen M. Ditson
3065 Heather Street
Vancouver, BC
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Telephone No: 873-2050

Gwen Ditson graduated from the University of Southern California with a B.Sc. in Geology in 1974 and came to Canada to study towards a Master of Science Degree at UBC. She has worked on field projects for Du Pont during 1976 and 1977 and has conducted laboratory courses for first-year geology students at UBC. During 1976 she was part of the team carrying out mapping of a part of the Northwest Territories in a search for massive sulphide deposits, and joined Du Pont again in 1977 to work on projects in the Ross River area, Y.T.

STATEMENT OF QUALIFICATIONS

1. I am a member of the Association of Professional Engineers of British Columbia (Registration Number 9140) and a member of the Professional Engineers of Ontario (Number 3129600).
2. I am a Fellow of the Geological Association of Canada.
3. I hold a Bachelor of Science degree from Carleton University, Ottawa, Ontario (May 24, 1963) and the degree of Master of Science (Applied), McGill University, Montreal, Quebec (June 2, 1971).
4. I have been practising my profession of Geologist since 1963 and I am employed by Du Pont of Canada Exploration Limited.
5. I have been associated with the Tenas Project since its inception in January 1977, having supervised the 1977 drilling programme (August 1-September 1) and part of the geological mapping and prospecting programme (June 9-19) as well as the performing in the compilation of the Geological Report concerning the project area.
6. I regard the Authors G.M. Ditson, L.K. Eccles and G.P. MacLaren as competent field geologists who performed their work professionally and conscientiously.

Signed at Vancouver this 24th Day of October 1977



K. A. MacLean, P.Eng

TENAS CLAIMS

T CLAIMS

LEGEND

- 5 DISTAL SEDIMENTS - VERY FINE GRAINED, VERY THIN LAMINAR.
- RHYOLITE, TUFFS, PEARLY GREY PHYLLITES (TERRESTRIAL)
- BROWN PHYLLITES (VOLCANIC SOURCE) CALC-SILICATES
- GRAPHITIC.
- 4 PROXIMAL VOLCANO-SEDIMENT - FINE, MEDIUM GRAINED TURBIDITES
WITH HIGH VOLCANIC COMPONENT.
- TUFFS, EXHALITES, RHYOLITES, GREEN, WHITE ETC.
- POSSIBLE HIGH MAGNETITE.
- 3 ANDESITE - MASSIVE, HETEROGENEOUS.
- VARIABLE CHARACTER
- CORE MATRIX, POSSIBLE INTERCALATED FLOWS, TUFFS.
- BASIC INCLUSIONS, ASBESTIFORMS, TALCS ETC.
- 2 JURASSICS - JASPER, CHERT, RHYOLITE, ANDESITE.
- 1 GRANITICS - QUARTZ MONZONITE; QUARTZ FELDSPAR PORPHYRY

SYMBOLS

- OUTCROP
- CONTACT OBSERVED
- CONTACT ASSUMED
- FAULT ASSUMED
- ATTITUDE OF FOLIATION
- ATTITUDE OF JOINTING
- CLAIM POST
- T SURVEY GRID - 1977
- TENAS SURVEY GRID - 1974
- WOP SURVEY GRID - 1974
- DIAMOND DRILL HOLE
- CLAIM BLOCK BOUNDARY (APPROXIMATE)

WEST DRWG No. T.77-9	CENTRAL DRWG No. T.77-8	EAST DRWG No. T.77-7
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DU PONT EXPLORATION
CANADA

TENAS CREEK JOINT VENTURE
GEOLOGY
T, TENAS & WOP CLAIMS
(PARTS OF)
TENAS CREEK AREA, YUKON TERRITORY

1:10,000
SCALE
1 INCH = FEET

MAPPED BY: F.M.S. REVISED: N.T.S. No: 105 K 1
DATE: Jun.-Jul. 77 ACCT No: 326-04
DRAWN BY: K.L.J.
DATE: Aug. 77 DRWG No: T.77-7



TENAS CLAIMS

WOP CLAIMS

BELL CLAIMS

BAR CLAIMS

T CLAIMS

T CLAIMS

LEGEND

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SYMBOLS

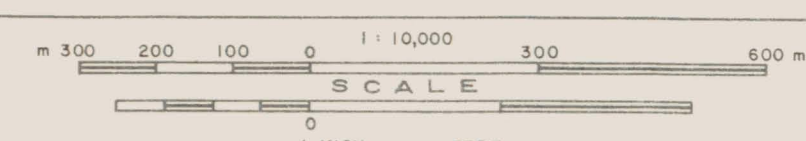
- OUTCROP
- CONTACT OBSERVED
- - - CONTACT ASSUMED
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M. MacLean
Geologist
Geological Engineering
Yukon Territory