

**J. TUACH GEOLOGICAL CONSULTANTS, INC.**  
**DIAMOND DRILL CORE LOG**

Sheet No. 1

UTM CO-ORDINATES 514891.7 E 5405461.5 N  
 MINE GRID L148 E 5375 N  
 ELEVATION - 262 m  
 DIP AT COLLAR -70°  
 BEARING 180°  
 TOTAL DEPTH 314.0 m CORE SIZE NQ  
 REMARKS Disseminated pyrite in mafic volcanic

| Tests<br>Depth | Dip         | Magnetic<br>Bearing | Corrected<br>Bearing |
|----------------|-------------|---------------------|----------------------|
| <u>290 m</u>   | <u>-70°</u> | <u>(10°?)</u>       |                      |
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Project No. \_\_\_\_\_ Hole No. BR-99-14-01  
 Property Buchans East  
 NTS 12A/15 Grid Name Buchans East  
 Date started 14/06/99 Completed \_\_\_\_\_  
 Contractor Petro Drilling  
 Logged by Harris & Oxford - 1999

| Depth & Lithology | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Alteration                                                                                                                                                  | Mineralization                                                                                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0 – 6.4 m         | Overburden                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                             |                                                                                                                                                                                                                                                                     |
| 6.4 – 32.2 m      | Mafic volcanic, amygdaloidal basalt, 4b?<br>grey-green bleached, calcite and a few chlorite amygdules<br>21.2 – 21.7 m - rusty - hematitized, some shearing/faulting<br>some sections without amygdules                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | zones of quartz-carbonate-sericite-<br>pyrite alteration<br>(like pyritic mafics of the Lake 7<br>alteration zone)<br>some chloritic alteration 31 – 32.2 m | 6.4 – 10.1 m - 10-20% pyrite finely<br>disseminated with alteration, may be<br>between pillows locally<br>10.1 – 22.5 m - to 1% pyrite<br>finely disseminated along stringers<br>22.5 – 32.2 m - average 5-6% pyrite<br>(variable)<br>31.4 – 32.2 m - = 50% fine py |
| 32.2 – 49.5 m     | Mafic tuff to fragmental, bleached, 4b<br>local faulting with hematite staining and carbonate infill<br>32.8 – 33.2 m - fractured to faulted<br>34.8 – 35.0 m - fault gouge and breccia, some carbonate cement<br>37.9 – 38.5 m - hematite faulting/shearing<br>some fragments with calcite and silica amygdules, some resemblance to Ski Hill fragmentals<br>39.6 – 41.5 m - sheared at 80 - 90° to the core, local fault gouge to breccia, strongly hematitized<br>42.9 – 49.5 m - strongly hematitized, sheared, local fault gouge and breccia, especially 43.9 – 45.2 m<br>common carbonate - silica veining 47.5 – 49.5 m<br>also some "arkose" inclusions 47.5 – 49.5 m<br>faulted contact |                                                                                                                                                             |                                                                                                                                                                                                                                                                     |
| 49.5 – 52.5 m     | Arkosic sediment, 4sa<br>pink arkose, some thin hematitic fractures<br>local fault breccia<br>51.7 – 51.9 m - clayey fault gouge, locally hematitic, weakly conductive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | weak sericitic alteration<br>related to shearing                                                                                                            | minor pyrite and chalcopyrite with thin<br>calcite veins                                                                                                                                                                                                            |

HOLE NO. BR-99-14-01

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Sheet No. 2

| Depth & Lithology | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Alteration                                         | Mineralization                       |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------|
| 52.5 – 56.6 m     | Mafic fragmental sheared and hematitized calcite amygdules and veinlets, some sericitic fragments, arkose or altered mafic 53.45 – 53.5 m and 53.65 – 53.75 m - chilled mafic dyke, veins                                                                                                                                                                                                                                                                                                  | hematitized                                        |                                      |
| 56.6 – 94.1 m     | Arkose, 4sa<br>pink and pale green, common quartz-calcite veining, a few thin siltstone beds<br>small fault gouge and breccia zones throughout, i.e. 57.7 – 58.0 m, @ 64.4 m, 80.4 – 80.5 m, 83.7 – 84.2 m, 84.9 – 85.2 m, 89.5 – 90.6 m and common small zones 90.6 – 94.1 m<br>67.0 – 67.3 m - 3 small, chilled mafic dykes                                                                                                                                                              | moderate sericitic alteration, related to shearing |                                      |
| 94.1 – 99.2 m     | Tuffaceous sediment and arkose 4s, 4t<br>strongly sheared and brecciated, red, pink and grey-green<br>tuffaceous beds have green sericitic chips and locally matrix<br>some mafic volcanic fragments or zones, also jasper fragments<br>common thin clayey gouge<br>shearing at high angles to the core                                                                                                                                                                                    | patchy hematitization<br>some sericitic alteration | minor disseminated specular hematite |
| 99.2 – 129.3 m    | Sediments, 4s<br>pink and pale green arkose, siltstone and pebble conglomerate<br>strongly sheared @ about 80° to the core to 102.4 m, 2 or 3 small fault gouge zones<br>106.5 – 106.8 m - chilled mafic dyke<br>108.0 – 109.8 m - basaltic fragmental, calcite amygdules<br>106.9 – 108.0 m - pebble conglomerate, coarse quartz grains<br>109.8 – 129.3 m - mainly siltstone to sandstone<br>122.8 – 123.3 m - fault breccia<br>sheared contact @ 129.3 m, sericitic shearing over 0.1 m | moderate sericitic alteration, related to shearing | rare pyrite in grey chert fragments  |
| 129.3 – 139.4 m   | Rhyolite and rhyolite breccia (3r?)<br>maroon to pink, fairly soft - sericitic<br>laths of sericite after plagioclase<br>also some muscovite phenos<br>calcite veining, local shearing<br>135.4 – 135.7 m - sheared at 75-80° to the core, some fault breccia<br>conformable contact @ 139.4 m                                                                                                                                                                                             | sericitic alteration<br>hematitized                | <1% disseminated hematite            |
| 139.4 – 142.1 m   | Arkosic conglomerate to pyroclastic breccia<br>clasts of rhyolite and mafic volcanic, some sericitic<br>pumice, arkosic matrix<br>conformable contact @ 142.1 m                                                                                                                                                                                                                                                                                                                            | weakly sericitic<br>locally hematitized            |                                      |

HOLE NO. BR-99-14-01

J. TUACH GEOLOGICAL CONSULTANTS, INC.  
DIAMOND DRILL CORE LOG

Sheet No. 3

| Depth & Lithology | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Alteration                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Mineralization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 142.1 - 161.3 m   | Rhyolite, as for 129.3 - 139.4 m (3r")<br>maroon to pink, altered feldspar and occasional quartz phenos<br>146.8 - 146.9 m - fault gouge and breccia<br>154.5 - 161.3 m - rhyolite breccia, pink to maroon rhyolite fragments in a darker rhyolitic matrix.<br>rhyolite fragments are subrounded<br>some tuffaceous matrix locally<br>resembles Buchans River Fm. rhyolite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | minor disseminated hematite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 161.3 - 314.0 m   | Mafic volcanic, 2<br>medium to dark green amygdaloidal basalt and basaltic fragmental<br>calcite and silica amygdules, some large irregular shaped<br>small fault breccia @ 161.3 m, locally, weakly sheared to 164.5 m<br>161.3 - 164.5 m - locally brecciated with a grey siliceous matrix<br>164.5 - 172.8 m - fairly massive basalt, some silica calcite veining<br>172.8 - 187.4 m - commonly fragmental to brecciated, grey-green silica, epidote and calcite infill.<br>local pink calcite matrix<br>185.8 - 187.4 m - sheared, foliated @ 35-50° to the core<br>187.4 - 221 m - more massive basalt, local fragmental zones to about 210 m<br>221.0 - 241.5 m - becomes gradationally more fragmental or brecciated by silicification, host mafic is<br>commonly bleached light green to buff<br>230.8 - 230.9 m - fault gouge and breccia<br>below 241.5 m - local massive zones, local altered and fragmental zones<br>260.0 - 290.1 m - massive basalt, pillowed? = 1-2% pyrite<br>290.1 - 297.0 m - bleached and moderately epidotized<br>297.0 - 300.8 m - massive dark green basalt<br>300.8 - 305.7 m - locally brecciated and bleached, carbonate ± silica infill<br>305.7 - 310.1 m - pale green to buff altered, grey carbonate-silica infill<br>310.1 - 310.2 m - fault gouge and breccia<br><br>- 314.0 m E.O.H. - | 161.3 - 164.5 m - calcite-silica and<br>epidote veining<br>local pyritic alteration<br><br>214.4 - 217.4 m - mainly white to grey<br>silica infill to breccia<br>may be brecciated by silica<br><br>221.0 - 241.5 m - thin stockwork<br>silica veining<br><br>below 241.5 m - patchy<br>bleaching and silicification<br>epidote veining to alteration<br><br>300.8 - 305.7 m - epidote and<br>carbonate alteration<br><br>305.7 - 310.1 m - sericite-pyrite-<br>carbonate alteration | 161.3 - 164.5 m - 2-3% pyrite, very<br>finely disseminated as network stringers<br>and around fragments<br>local short zones with 30-40% pyrite<br><br>164.5 - 172.8 m - <1% pyrite<br>as fine disseminations along silica-<br>calcite "vein" margins<br>187.4 - 223.5 m - <1% pyrite<br>as finely disseminated stringers<br><br>gradational increase in fine pyrite<br>221.0 - 241.5 m - 5-10% pyrite finely<br>disseminated, mainly along quartz vein<br>margins<br>locally 20-30% pyrite<br>241.5 - 314.0 m - 1-5% pyrite with<br>local zones of 10-20%<br>255.2 - 255.8 m - ≈ 50% fine pyrite<br>305.7 - 310.1 m >20% pyrite |

HOLE NO. BR-99-14-01

## J. TUACH GEOLOGICAL CONSULTANTS, INC.

## DIAMOND DRILL CORE ASSAYS

SHEET NO. \_\_\_\_\_

PROJECT NO. B-4294HOLE NO. BR-99-14-01PROPERTY Buchans East

| Sample No. | From<br>(meters) | To<br>(meters) | Length<br>(meters) | DESCRIPTION                                   | Cu<br>(ppm) | Pb<br>(ppm) | Zn<br>(ppm) | Ag<br>(ppm) | Au<br>(ppb) | Ba<br>(ppm) |
|------------|------------------|----------------|--------------------|-----------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 99-14      | 6.4              | 7.0            | 0.6                | Mafic volcanic 10 - 20% fine pyrite           | 139         | 22          | 205         | 0.3         | 26          | 550         |
| 99-14      | 31.2             | 32.2           | 1.0                | Mafic volcanic ~ 40% fine pyrite              | 49          | 156         | 57          | 0.3         | 8           | 333         |
| 99-14      | 162.3            | 163.2          | 1.0                | Mafic volcanic 10%+ pyrite                    | 274         | 277         | 1530        | 0.7         | 21          | 409         |
| 99-14      | 229.2            | 230.2          | 1.0                | Mafic volcanic, stockwork quartz ~ 10% pyrite | 104         | 20          | 103         | 0.3         | 9           | 455         |
|            | 230.2            | 233.2          | 3.0                |                                               | 95          | 20          | 69          | 0.3         | <1          | 339         |
| 99-14      | 233.2            | 234.7          | 1.5                | Mafic volcanic, stockwork quartz ~ 10% pyrite | 86          | 20          | 63          | 0.3         | 8           | 275         |
|            | 234.7            | 237.7          | 3.0                |                                               | 90          | 20          | 84          | 0.3         | 2           | 301         |
|            | 237.7            | 240.7          | 3.0                |                                               | 95          | 20          | 106         | 0.3         | 1           | 280         |
|            | 240.7            | 243.7          | 3.0                |                                               | 84          | 20          | 98          | 0.3         | <1          | 292         |
|            | 243.7            | 246.7          | 3.0                |                                               | 80          | 20          | 91          | 0.3         | <1          | 164         |
|            | 246.7            | 249.7          | 3.0                |                                               | 80          | 20          | 95          | 0.3         | <1          | 254         |
|            | 249.7            | 252.7          | 3.0                |                                               | 72          | 24          | 91          | 0.3         | <1          | 179         |
|            | 252.7            | 255.0          | 2.3                |                                               | 72          | 20          | 92          | 0.3         | <1          | 255         |
| 99-14      | 255.0            | 256.0          | 1.0                | Mafic volcanic, ~ 40% pyrite                  | 63          | 20          | 57          | 0.3         | 7           | 215         |
| 99-14      | 307.5            | 309.0          | 1.5                | Mafic volcanic, ~ 25% pyrite                  | 135         | 20          | 53          | 0.5         | 13          | 776         |
|            |                  |                |                    |                                               |             |             |             |             |             |             |
| DUP. 99-14 | 6.4              | 7.0            | 0.6                |                                               | 118         | 20          | 228         | 0.3         | 31          |             |
|            |                  |                |                    |                                               |             |             |             |             |             |             |
|            |                  |                |                    |                                               |             |             |             |             |             |             |
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|            |                  |                |                    |                                               |             |             |             |             |             |             |

NOTE: Pb - 20 = &lt;20; Ag - 0.3 = &lt;0.3