```
                    33          402.00          104.10          -66.80
                    34          415.00          103.00          -66.42
                    35          427.00          102.00          -66.17
                    36          439.00          106.20          -65.33
                    37          451.00          104.10          -64.50
                    38          463.00          104.30          -63.88
                    39          475.00          103.20          -63.53
                    40          488.00          102.00          -63.00
                    41          500.00          100.90          -62.67
                    42          512.00          101.90          -62.55
                    43          524.00          101.70          -62.03
                    44          536.00          101.20          -60.50
                    45          549.00          102.40          -58.27
                    46          561.00          102.00          -57.17
                    47          573.00          102.80          -56.42
                    48          585.00          102.60          -56.00
                    49          597.00          101.40          -56.00
                    50          610.00          100.20          -56.08
                    51          616.00          101.30          -56.05

   F   - I N T E R V A L -    CORE  T- %      TYPI- QAL  TEX-  GRAIN       PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                     H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T (  .  )  D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3      3  4 O     /          2    AZM  RT H  H  H  H  H  H  H  H  H  H  1   1
Y  G                          DESIG      VIR   COL            R     C            STRUCTUR-2  A  A  A  A  A  A  A  A  A  A    2   2

R SVY    0.00    0.00      DATA FROM GYROSCOPIC DIRECTIONAL SURVEY.  THE DATA REPRESENTED
R SVY    0.00    0.00      IN S000-S051 SHOULD BE USED FOR PLOTTING PURPOSES.

/ OVB    0.00   28.75  28.75            OVER                                P
L

/ WET   28.75   45.11  16.36            BRHM CR    SI+ R* B*          MS9   P                                    D*
L                                           1A    *C.                LO+
R       28.75   45.11      MATRIX OF BRPM.

/ FLT   32.80   45.11  12.31          X BRHM CR    SI+ R* B*          MS9   R                                    D*
L                                                 GG3

/ FAL   37.49   38.00   0.51          X FAUL CR    GG9                      R                                    D*
L                                           N

/ FLT   45.11   51.30   6.19            BRHT CR    SI+ R* F*          NR7   P                                    B*
L                                           1A    *C) B*             NP3
R       45.11   51.30      ROCK HIGHLY FRACTURED, BUT VERY LITTLE GOUGE.

/       51.30   58.80   7.50            BRHT CR GR SI=                NP9   P                                    R)
L                                           1A                       MO1
R       51.30   58.80      PYRITE REPLACES SILT IN ARSI CLASTS, AND CHERT FRAGMENTS.

/ FLT   52.00   52.43   0.43          X BRHT CR GR SI=                NP9   R                                    R)
L                                                 GG3                LN

/ FLT   56.50   57.00   0.50          X BRHT CR GR SI=                NP9   R                                    R)
L                                                 GG3                LN=

/ FLT   57.00   58.80   1.80          X BRHM       SI= SS SC                R                <+          <)      7+
L                                           1A    GG4                LN+
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```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                          R O D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/        58.80   60.45   1.65            BRHT CR SF *C+ R* F*         NP6   P                #2                  7+
L                                         2A                   1     LO3
R        58.80   60.45      'OTHER' CLASTS ARE SAND.

/ FAL    60.45   73.50  13.05            BRHT CR GR GG6               MQ9   P                <)          <*      R+
L                                          N                          LO=
R        60.45   73.50      ARG AND CHT CLASTS ALIKE REDUCED TO GOUGE.

/        73.50   77.46   3.96            BRHT CR GR *C= SC F*         NR4   P                >+                  R+
L                                         3A        B* R*    . . O MP4
R        73.50   77.46      MATRIX OF BRPM. QZ ALSO AS MICROVEINS.  MATRIX MOSTLY MUD.

/        77.46   81.50   4.04            BRHT                          P4   P                            HE
L                                                                C   5                                    R.

/        81.50   84.30   2.80            BRHT         1 G;            NP5   P            U
L                                                                O LO3
R        81.50   84.30      MATRIX OF BRPM.  CRUDE GRADING OF CLASTS UPHOLE. CR CLASTS.
R        81.50   84.30      GR IN SHEARS.
R        82.60   82.60      REDUDE TO NQ IN AN ATTEMPT TO FLATTEN HOLE.

/        84.30   85.45   1.15            BRHT CR GR *C1    F*         NP5   P                V*                  R+
L                                         2A SF     B* R*    . . C MO5

/        85.45   90.50   5.05            BRHT CR GR *C2 B* F*         KO3   P                <+                  R+
L                                         4A        R*             C KP7
R        85.45   90.50      MUCH LESS MUD IN MATRIX- GRIT TO GRANULE SIZE COMMON.

/        90.50   95.40   4.90            BRHT CR GR                   MQ6   P                V1                  R+
L                                         3A                       C LP4

/ FAL    95.00   95.40   0.40          X BRHT CR GR                   MQ6   R                V1                  R+
L                                         3A    GG6                C LP4

/ FLT    95.40  100.50   5.10            BRPM CR GR SN1 VG SC 1 4     5 OR8   P                <)              WI R)
L                                         1A    GG2        4         O LN+                                      <*
R        95.40  100.50      LARGE ARGL CLASTS WITH PEBBLY SAND TO SANDY MUD AS MATRIX.
R        95.40  100.50      ARGL CLASTS ALSO INCLUDE ARSI AND ARSN.  SAND IS VUGGY.

/        98.45   98.95   0.50          X SAND            IM G; 3 4 4 5     R    IM      U30
L                                         3A                 6
R        98.45   98.95      COARSE SAND TO GRIT DARTICLES ALL ARGL.

/       100.50  105.77   5.27            BRHM CR GR SN=         3 4     4 NR9   P                <)          <* WI 8+
L                                         1A                   )   C KN+                                <.     <* <.

/ FLT   105.77  106.98   1.21            BRHT        SN2 VG     3 4     5 NP6   P                <*              WI R+
L                                         2A    GG2                  O KN3                                          <*

/ FLT   106.98  119.48  12.50            BRHT CR GR SN1 SC      3 4     5 NQ9   P                <)          <* WI R+
L                                         1A    GG2              )     LN=                            C.     <* <*
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       106.98  119.48  12.50          1 BRPM CR GR          0 1 6 3       R
L                                          1A
R       106.98  119.48      SOMETIMES OCCURS AS MATRIX FOR BRHM.

/       119.48  121.01   1.53            LOST                              P
L

/       119.48  119.49   0.01          X WEDG                              R
L
R       119.48  121.01      REAMED FOR WEDGE.
R       121.01  124.05      'Q' SIZED ARGL CLASTS NEXT MOST ABUNDANT.

/ FLT   121.01  129.24   8.23            BRHM CR GR                  OS9   P                <)                R+
L                                          1A                    C KN+                        C.

/ FAL   121.01  124.05   3.04          X BRHM CR GR GG8              OS9   R                <)                R+
L                                          1A                    C KN+                        C.
R       121.01  129.24      MANY FRAGMENTS ARE ARSI OR ARSN.

/       126.25  126.45   0.20          X BRPM       *C) F* B* 1 3 3 6      R           U                     R1
L                                          2A        R* G; 4       KN1
R       126.25  126.45      CRUDE GRADED BEDDING.

/ FAL   129.24  133.20   3.96            BRHM CR GR                  MQ9   P                <)                R+
L                                          1A    GG4               JL)                        C.
R       129.24  133.20      CLASTS RANGE FROM ARGL TO ARSN.

/ FAL   133.20  138.00   4.80            BRHM CR GR                  MR9   P                <)                R+
L                                          1A    GG1               JL*                        C.

/ FAL   138.00  143.56   5.56            BRHM CR GR                  MQ9   P                <)                R+
L                                          1A    GG4               JL*                        C.

/ FAL   143.56  148.00   4.44            BRHM CR GR                  MR9   P                <)                R+
L                                          1A    GG2               JL.                        C.

/ FAL   148.00  155.14   7.14            BRHM CR GR   5              MP9   P                <)                R+
L                                          1A    GG1               JL.                        C.                <)

/ FLT   155.14  158.00   2.86            BRHM CR GR     R*           MR9   P                <)                R+
L                                          1A    GG=         .     JL)                        C.                    R.
R       155.14  158.00      SL REPLACEMENT OF CHERT.

/ FLT   158.00  161.85   3.85            ARGL CR GR     SS SC O 1   1      P                V1                8=
L                                           N SF                                                C.                    B.
R       158.00  161.85      HIGH CR, SF.  SL IN QZ.

/ FLT   159.00  159.10   0.10          X VEIN                              R                >X
L                                           W                                                      >.

/       159.10  159.41   0.31          X ARGL CR GR SI  SS SC O 1   2      R                V1                8=
L                                          1A GR
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ FAL  159.41  161.85   2.44          5 SAND           SC VG 3 4   4       R                V1                B1
L                                          3A         MX IB                                                        B*

/ FLT  161.85  166.70   4.85            BRHM CR GR GG1 R*            NR9   P                <)          B*    7+
L                                          1A                 . )   KM)                        C.              <) D.
R      161.85  166.70      'OTHER' CLASTS ARE SAND.
R      166.70  167.50      WHILE THIS MAY BE A FRG, LITTLE EVIDENCE TO BE CONCLUSIVE.
R      166.70  167.50      EQUIVALENT BEDDING ANGLE TO ARSN IN NEXT 'REPEAT' SUGGESTS
R      166.70  167.50      QUIESCENT SEDIMENTATION.  CONTACTS HARD TO DISTINGUISH DUE TO
R      166.70  167.50      BROKEN CORE.

/      166.70  170.69   3.99            BRHM CR GR GG1 R*            MQ9   P                <)          B*    7+
L                                                                 *    JK

/ FRG  166.70  167.50   0.80          X ARSI CR    SI2 SS SC 0 1   2       R  2 BD      50              <.
L                                          1A

/ FRG  168.55  169.40   0.85          X ARSN CR    SN4 G; IB               R  2 BD     U45 <.                R)
L                                          2A                                                                  <*

/ FAL  170.69  173.74   3.05            FAUL CR GR GG9       0 1   1       P                            <.    D*
L                                           N

/      173.74  174.80   1.06            BRHT CR    *S) R*            MO9   P                                R)
L                                          1A                       KM=                        C.

/ SHR  174.80  181.97   7.17            ARGL CR GR SN= //    0 1 9 2       P  2 BD      75 <.                R)
L                                          1A    SI+                          CV      80

/ FAL  179.83  181.97   2.14          X ARGL CR GR SN= //    0 1 9 2       R  2 BD      75 <.                R)
L                                          1A    GG3                          CV      80

/      181.97  192.33  10.36            BRHM       *C  R* H*         NQ9   P                                R+
L                                          1A    *S+                KM+                        C.

/      192.33  194.16   1.83            BRPM           VG R*         KN1   P                                R)
L                                          2A         F* B*         KO3                        C.

/      192.95  193.84   0.89          X CGBR SF    *C1 VG F*         LN3   R                <*                R+
L                                          3A    *S) B* R*       C LN6                        C.
R      192.95  193.84      CONTACT WITH BRPM DEPOSITIONAL.

/      193.84  194.16   0.32          X SAND           BR VG 3 4 4 5       R                <2
L                                          3A                 7
R      193.84  194.16      CONTACT WITH CGBR EROSIONAL.

/ FAL  194.16  238.35  44.19            BRHM CR GR *S+ BR R*         OR9   P                V)                8+
L                                          1A    GG3                KM)                        C*
R      194.16  238.35      PYRITE AS REPLACEMENT, AND VEIN WITH QZ.  GRAPHITIC IN SHEARS.
R      194.16  271.27      POSSIBLY A CONTINUOUS BRHM UNIT WITH THE ARSI PGI ABOVE BEING A
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       194.16  271.27      LARGE CLAST.

/ FAL   197.00  197.30   0.30          X BRPM CR     *C= H* R*          LN1   R                                  R+
L                                            2A     GG2 DB             KM3                          C.

/       199.50  199.95   0.45          X BRHM CR GR *S+ BR R*          OR9   R                V)                 8+
L                                                    8

/       199.95  202.08   2.13          X BRHM CR GR *S+ BR R*          OR9   R                V)                 8+
L                                                    6

/       202.08  202.25   0.17          X SAND GR         SS MX 3 4 4 5       R                                  R=
L                                            2A               7                                    C.

/       202.25  203.91   1.66          X BRHM                                R
L                                                    7

/       208.80  209.30   0.50          X BRHM CR GR *S+ BR R*          OR9   R                V)                 8+
L                                                    7

/       212.30  217.32   5.02          X BRHM CR GR *S+ BR R*          OR9   R                V)                 8+
L                                                    8

/ FAL   223.90  224.30   0.40          X BRPM GR     *C= R*             KN2   R                <*                 R=
L                                                                      KN2                          C.
R       223.90  224.30      GR IN SHEARS.

/ FAL   227.60  227.70   0.10          X SAND CR         SS MX 3 4 4 5       R                                  R)
L                                            2A               7

/ FAL   227.70  227.90   0.20          X CGCP SF         R* H*          KN1   R                                  R+
L                                            3A         F*             KO9
R       227.70  227.90      POOR RECOVERY MAKES DETERMINATIN DIFFICULT.  ONLY 10CM WERE
R       227.70  227.90      RECOVERED, OF WHICH 7CM IS A SINGLE CHERT CLAST.  MODERATELY
R       227.70  227.90      ROUND.

/ FLT   238.35  246.60   8.25            ARSI CR     SI1 // SS 0 1   2       P  2 BD      70                     R)
L                                            1A     GG4                         1 LM      70        C*
R       238.35  246.60      SI LAMINATIONS IN ARGL BEDS.  POSSIBLE FRG.

/       239.80  242.93   3.13          X ARSI CR     SI1 // SS 0 1   2       R  2 BD      70                     R)
L                                                    1

/ FLT   246.60  271.27  24.67            BRHM CR GR *S+                 OU9   P                <)                 R+
L                                            1A     GG1                JM*                          C.    <.
R       246.60  271.27      CLASTS MAINLY ARSI.

/       260.10  260.30   0.20          X SAND            //    3 4 3 4       R  3 BD      30 <=                  R)
L                                            3A               8

/       262.77  268.40   5.63          X BRHM CR GR *S+                 OU9   R                <=                 R+
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ FAL  268.40  268.83   0.43          X BRHM CR GR *S+                OU9   R                <)                R+
L                                                 8

/ FLT  271.27  302.06  30.79            ARSI CR    SN3 SS // 0 1 4 2       P  2 BD      70 <*              HE R)
L                                            1A        SC    6                  CV      70       C.        R*
R      271.27  302.06      HE REPLACEMENT OF SILT/SAND.  SILT/SAND 2 TO 15MM THICK.
R      284.38  284.38      REDUCED TO BQ.

/ FAL  302.06  304.00   1.94            ARSI CR    SN2 SS // 0 1 4 2       P  2 BD      90 >+              HE R)
L                                                 GG3                                  90

/ FAL  304.00  308.50   4.50            ARSI CR    SN1 SS // 0 1 4 2       P  2 BD      70 >+              HE R)
L                                                 GG3

/ SHR  308.50  309.90   1.40            ARSI       SI/ BR SS 0 2   2       P  2 BD                         HE 7)
L                                            1A        SC // 7                                   C.        R(
R      308.50  309.90      UNIT IS BORDERLINE BRHM.  EXTREME DEFORMATION.  PY REPLACEMENT
R      308.50  309.90      AND AS MICROVEINS.

/      309.90  311.51   1.61            ARSI CR    SI2 // SS 0 2   2       P  2 BD      30 <)              HE D)
L                                            1A        SC                                        C.        R(

/      311.51  316.20   4.69            BRHM CR    SI1                NQ8   P                              HE R)
L                                            1A                                                  C.        R(
R      311.51  316.20      CLASTS ARE ARSI IN MUD MATRIX.  HIGHLY DEFORMED ARSI.

/ SHR  316.20  325.73   9.53            ARSI CR    SI1 // SS 0 2   2       P  2 BD      75 <*              HE R)
L                                            1A        SC BR                                     C.        R-

/ FAL  323.39  324.31   0.92          X ARSI CR    SI1 // SS 0 2   2       R  2 BD      75 <*              HE R)
L                                            1A    GG5 SC BR                                     C.        R-

/      325.53  325.73   0.20          X ARSI CR SF SI1 // SS 0 2   2       R  2 BD      75 <*              HE R) <. <.
L                                            1A        SC BR                                     C.        R-

/      325.73  332.90   7.17            ARSI CR    SI1 BR SS 0 2   2       P  2 BD      85 <*              HE R)
L                                            1A        SC //                    CV      85       C.        R-
R      325.73  332.90      LOCALLY INTENSE DEFORMATION.

/      332.90  335.58   2.68            ARSI CR    SI1 SS BR 0 2   2       P  2 BD      60 <*              HE R)
L                                                      SC //

/ FAL  335.00  335.58   0.58          X ARSI CR    SI1 // SS 0 2   2       R  2 BD      75 <*              HE R)
L                                                 GG4

/ FLT  335.58  394.72  59.14            ARSI CR    SI1 BR SS 0 2   2       P  2 BD         V+              HE R+ B. B.
L                                            1A    GG= SC //                                     C.        R.
R      335.58  394.72      STRONGLY DEFORMED.  BEDDING FROM 60 TO 90 DEGREES.  TRACES OF CP
R      335.58  394.72      AND GL IN QZ-VEINS.  MILDLY CR.

/ FAL  353.30  353.87   0.57          X ARSI CR    SI1 BR SS 0 2   2       R  2 BD         V+              HE R+ B. B.
L                                                 8
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ FAL  361.49  361.70   0.21          X ARSI CR    SI1 BR SS 0 2   2       R  2 BD         V+              HE R+ B. B.
L                                                   6

/ SHR  361.70  365.20   3.50          X ARSI CR    SI1 BR SS 0 2   2       R  2 BD         V+              HE R+ B. B.
L                                                   )

/ FAL  365.20  365.60   0.40          X ARSI CR    SI1 BR SS 0 2   2       R  2 BD         V+              HE R+ B. B.
L                                                   8

/ SHR  365.60  367.28   1.68          X ARSI CR    SI1 BR SS 0 2   2       R  2 BD         V+              HE R+ B. B.
L                                                   *
R      394.72  395.25      POORLY SORTED:  MATRIX OF CLAY TO SAND SIZE PARTICLES.

/ SHR  394.72  436.81  42.09            BRHM CR    *S= BR SS         NS9   P               <+                  8)
L                                          1A    SI2 SC                                        C- <(

/      394.72  395.25   0.53          X BRPM       SN3 CU              3   R               <(                  B)
L                                          3A    *C1                 3                         C.
R      394.72  436.81      UNIT IS ARSI CLASTS IN MUD MATRIX  BRECCIATED VERSION OF
R      394.72  436.81      PREVIOUS PGI.  OCCASINAL QUARTZ MACROVEIN.

/ FLT  436.81  460.20  23.39            BRHT CR    *S) F* B*         MR4   P               #)                  8)
L                                          2A    *C+ H* R*   )   C LO3                         C.
R      436.81  460.20      GROUND VERY BLOCKY.  PY REPLACEMENT AND MICROVEINING.  MOST
R      436.81  460.20      CHERT CLASTS FROM 0.7 TO 2.0CM.  ARGL/ARSI CLAST MOSTLY 1.0 TO
R      436.81  460.20      3.0CM. RARELY >15.0CM.  MILDLY CR.  MUDDY MATRIX.

/ FLT  460.20  465.12   4.92            BRHT CR    *S= R* SC         MO8   P               <*                  8)
L                                          1A                      KM=                         C.
R      460.20  465.12      PY AS REPLACEMENT AND MICROVEINS.  MUD MATRIX.
R      460.20  465.12      CONTACTS WITHIN THIS INTERVAL ARE ALL GRADUAL.

/      461.00  461.50   0.50          X BRPM       SN6 BR            LN3   R
L                                                                    JK)
R      461.00  461.50      CARBONATE MINERAL AS BRECCIA FILL:  MILD EFFERVESCENCE IN 10%
R      461.00  461.50      H<L SUGGESTS WITHERITE (BACO3).

/ FLT  461.50  463.30   1.80          X SAND       SN4 SS BR 0 2 3 3       R  2 BD      88                  B)
L                                          2A    SI3 // LC 3                                   C(
R      461.50  463.30      MUDDY SAND, LOCALLY DEFORMED TO BRPM.

/      463.30  465.12   1.82          X BRHT CR    *S= R* B*         MO7   R               <*                  8)
L                                                   F*      1      LN1                                  V+

/ FLT  465.12  467.20   2.08            CGBR CR    *S+ R* H*         LO4   P               <)                  7+
L                                          3A        DB    4 *      KN4                         C.
R      465.12  467.20      UNIT IS BORDERLINE BRHT-CGBR:  ROUNDED CLASTS, YET POORLY
R      465.12  467.20      SORTED.  QZ MICROVEINS CUT BY SHEARS.  ONE 8CM SAND CLAST.
R      465.12  467.20      CONTACTS GRADATIONAL.  PY REPLACEMENT, MICROVEINS.

/ FLT  467.20  470.30   3.10            CGPS           DB FU 3 5 1 7       P               <)                  7+
L                                          4A        M;    4                                   C.
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       469.55  469.65   0.10            X VEIN                                R                 >9                B*
L                                                W                                                     Q-

/ FLT   470.30  474.50   4.20              BRPM       SN3                LO3   P                 <+                7+
L                                                3A   *C=         +     LO2                           C(

/       470.30  470.92   0.62            X SAND             // SS 2 4 3 5    R  2 BD      75 <*                D*
L                                                3A         SC     6                                C.

/       471.83  474.50   2.67            X BRPM       SN3                LO3   R                 >1                7+
L                                                3A   *C=         +     LO2                           C(

/       474.00  474.50   0.50            X VEIN                                R                 >9                B+
L                                                W                                                     Q1

/ SHR   474.50  475.70   1.20              CGBR       *S+ IB DB          LO6   P    IB       65                    8)
L                                                2A   *C1               KM3                           C.

/ SHR   475.70  476.30   0.60              CGPS       SN8 BR SS 2 4 4 5      P                 V(                R)
L                                                     DB CU 6                                          C.

/ SHR   476.30  477.30   1.00              BRPM       SN6 BR             LN1   P                 <)                R)
L                                                2A   *S+         +     LN2                           C.

/ SHR   477.30  479.20   1.90              SAND            SS SC 2 4 4 6     P  2 BD      75 <*                B*
L                                                3A        G;     5

/ SHR   479.20  483.20   4.00              BRPM       SN6 BR             MP2   P                 #1                6)
L                                                2A                      KL1                           C.
R       479.20  483.20       PY AS REPLACEMENT BLEBS, MICROVEINS.  SOME QZ MACROVEINING

/       482.15  483.20   1.05            X BRPM SF    SN4 BR             LO2   R                 <)                B) Q(
L                                                3A   *S+                KN4                                <)
R       482.15  483.20       FRAGMENTS OF QZ-SD VEINS.  INTERVAL POSSIBLY FRG.

/ FLT   483.20  494.00  10.80              BRHT CR SF SN1 F* R*          MS7   P                                 6+
L                                                2A   *S=         )     KN2                           C- B.
R       483.20  494.00       ARSI MAKES UP ARG.  FRAGMENTS FILLED BY HIGH CHERT MATRIX.
R       483.20  494.00       RARE ARGL/CR CLASTS WITH SD BLEBS.

/       489.20  489.30   0.10            X VEIN            BR                  R                 >9            HE <+
L                                                W                                                     B+    R.

/ FRG   489.80  490.15   0.35            X SAND            MX CU 3 4 4 5       R                                B(
L                                                3A        G:                                      C.

/ FRG   493.00  493.30   0.30            X BRPM SF    SN4 F* R*          LO2   R                 <)                B) Q(
L                                                3A   *S+                LN3                                <)
R       493.00  493.30       IDENTICAL TO BRPM FRG.  482.15-483.20M.  ANGULIR TO SUBROUNDED
R       493.00  493.30       FRG.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ FAL  494.00  497.60  3.60            BRPM SF CR SN4 R* F*          MO2   P                <+                  6= Q?
L                                            3A         B*            KN3                          <)
R      494.00  497.60      ANGULAR TO ROUNDED CHERT, ARGL CLASTS.  SOME ARGL/CR WITH SD-
R      494.00  497.60      BLEB IN EUHEDRAL CRYSTALS.

/ FAL  497.60  498.82  1.22             BRPM SF CR SN5                LN3   P                V=                  6)
L                                            1A                       KM=                          C. B-

/ FAL  498.82  502.10  3.28             BRPM SF CR SN4 R* F*          MO2   P                >1                  6= Q?
L                                            3A         BR ST         KN3                          >1

/ FAL  502.10  504.00  1.90             BRHT CR        R*             MP9   P                >=                  6)
L                                            1A                       KM1                          C.

/ FAL  504.00  508.41  4.41             CGXX        SN1 DB VG 4 6 4 7       P                V+                  6+
L                                            3A         R* F* 3                                  C- R+
R      504.00  508.41      SIDERITIC MATRIX.  PY REPLACEMENT, MICROVEINS.  CORE PITTED, BY
R      504.00  508.41      FLUIDS MOVING THROUGH FAULT.  SAND CLASTS ABSENT.

/ FAL  508.41  511.76  3.35             BRHT           R* F*          MO9   P                >=                  7)
L                                            1A                       KM=                          C-

/ FAL  511.76  515.00  3.24             CGBR SF     SN3 DB VG         LN3   P                >+                  8+ B?
L                                            2A                       JL6                          C-
R      511.76  515.00      MOST ARGL CLASTS SILICIFIED.

/ FAL  515.00  534.92  19.92            BRHT CR     *S= R*            NR9   P                <*     V*     C-     8)
L                                            1A     *C=         =     LO=                          C*

/      515.00  534.92  19.92          = CGXX SF     SN3 DB     3 5 3 7       R                                   R) R(
L                                            3A                3                                    C.
R      515.00  534.92      SERICITE VEINS.  LARGE ARGL/ARSI CLASTS IN HIGH CHERT, MUDDY OR,
R      515.00  534.92      RARELY, SANDY MATRIX.  CGXX CLASTS HAVE PY BLEBS.  NOTE THAT
R      515.00  534.92      PGI HAS MINIMUM AMOUNT OF CHERT FOR BRHT.
R      515.00  534.92      GENERALLY RANGE FROM 5 TO 30 CM.

/      534.92  553.52  18.60            BRHM CR     SN+ F* R*          S9   P                V+                  7+
L                                            1A     *S)               LO)                                                B.

/ FRG  534.92  553.52  18.60          = CGXX SF     SN3 DB R* 3 5 3 7       R                                   R+ R.
L                                            3A         F* R* 3                                  C.
R      534.92  553.52      INTERMITTANT CARBONACEOUS ARGL OR ARSI CLASTS IN MUDDY TO SANDY
R      534.92  553.52      MUD MATRIX.  RARE CHERT CLAST MATRIX.  MOST CHERT CLASTS
R      534.92  553.52      ISOLATED.  PY-D, R, BLEBS IN QZ-VEINS, AND VEINLETS.  RARE SL
R      534.92  553.52      BLEBS IN QZ.  POSSIBLE WITHERITE IN QZ-VEINS.
R      534.92  553.52      ONE FRAGMENT VUGGY.

/ FRG  553.00  553.30  0.30           X CGPS GR     SN4 DB     3 5 4 7       R                                   R)
L                                            3A                3                                    C. D)
R      553.00  553.30      SIDERITIC MATRIX.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      553.52  557.00   3.48            BRPM        *S+ R* B*          MO2   P                V)                  8+
L                                                   SN2 F* DB          LP3                                R*
R      553.52  557.00      SD REPLACED CLASTS.  PY-R, VEINLETS.  ANGULAR TO SUBROUNDED.

/      557.00  590.00  33.00            BRHM CR SF *C) R*             OS9   P                V)                  6+
L                                            1A    *S+          =     LP+
R      557.00  590.00      ARGL FRAGS VARIABLY CR, AND SF.  MATRIX MUDDY WITH CHERT AND
R      557.00  590.00      ARGL FRAGMENTS.  PY VEINING, REPLACEMENT.

/      577.05  577.20   0.15          X BRHM CR SF *C) R* BR          OS9   R                #6                  6+
L

/      579.25  590.00  10.75          X BRHM CR SF *C) R*             OS9   R                V)                  6+
L                                                                                                  C-

/      590.00  601.50  11.50            CGBR SF         DB F*          LN3   P                V)                  8(
L                                            3A            R*          LO7
R      590.00  601.50      LITTLE CHERT REPLACEMENT BY PY.

/      601.50  602.59   1.09            BRHT        SN1                LO9   P                <=                  7+
L                                            1A    *C=              C KL=
R      601.50  602.59      LARGE, ROUNDED ARGL CLASTS WITH CHERT IN MUDDY MATRIX.

/      602.59  603.70   1.11            CGXX        *C3 F*             KL2   P                <+                  6=
L                                            3A                     C LN7
R      602.59  603.70      POOR SORTING SHOWN BY MUDDY MATRIX.

/ FAL  603.70  606.55   2.85            VEIN CR         BR    0 1   2       P                #9                  #=
L                                             W
R      603.81  606.55      ROCK TYPE UNIDENTIFIABLE:  ONLY ARGL CAN BE SEEN IN THE RUBBLE.

/ FAL  606.55  608.99   2.44            FAUL CR GR GG9                     P                <=                  <+
L                                             N
R      606.55  608.99      ROCK TYPE UNIDENTIFIABLE.  PROBABLY BRHM.

/      608.99  621.49  12.50            BRHM CR GR SN=                NQ9   P                V)                  7+
L                                             N SF                   KM)
R      608.99  621.49      PY-REPLACES SAND/SILT BEDS IN ARSI, AND AS VEINING.  VARIABLY
R      608.99  621.49      SF.

/      620.40  620.75   0.35          X BRHM CR GR SN= BR             NQ9   R                #1                  #6
L
```

G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

| | | | |
|---|---|---|---|
| DRILLHOLE/TRAVERSE :81-DH085 | COLLAR ELEVATION: 1244.36 | AZIMUTH( DEG ) : 0.00 | GEOLOGGED BY : JWP + |
| TOTAL DEPTH/LENGTH : 324.31 | NORTHING(- IF S): 7002370.00 | VERTICAL ANGLE : -90.00 | DATE (YY/MM/DD): 811012 |
| CORE/HOLE DIAMETER : HQNQ | EASTING (- IF W): 436553.06 | CO-ORD SYSTEM : UTM | PROJECT NUMBER : J-S |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 12.00 | 49.80 | -87.80 |
| 2 | 24.00 | 49.90 | -87.58 |
| 3 | 37.00 | 67.80 | -86.50 |
| 4 | 49.00 | 79.60 | -86.92 |
| 5 | 61.00 | 92.50 | -86.67 |
| 6 | 73.00 | 111.40 | -86.50 |
| 7 | 85.00 | 103.30 | -87.00 |
| 8 | 98.00 | 97.20 | -86.17 |
| 9 | 110.00 | 99.10 | -86.03 |
| 10 | 122.00 | 119.10 | -86.25 |
| 11 | 134.00 | 118.00 | -86.17 |
| 12 | 146.00 | 119.00 | -85.75 |
| 13 | 159.00 | 113.00 | -86.67 |
| 14 | 171.00 | 114.00 | -86.83 |
| 15 | 183.00 | 108.00 | -87.47 |
| 16 | 195.00 | 135.00 | -85.50 |
| 17 | 207.00 | 146.00 | -85.10 |
| 18 | 219.00 | 143.10 | -84.92 |
| 19 | 232.00 | 155.10 | -84.53 |
| 20 | 244.00 | 156.10 | -84.25 |
| 21 | 256.00 | 166.30 | -84.17 |
| 22 | 268.00 | 164.40 | -84.05 |
| 23 | 280.00 | 159.50 | -82.00 |
| 24 | 289.86 | 160.00 | -83.25 |
| 25 | 302.06 | 156.00 | -82.00 |
| 26 | 316.38 | 153.00 | -81.00 |
| 27 | 323.29 | 148.00 | -80.50 |

```
   F   - I N T E R V A L -    CORE  T- %       TYPI- QAL  TEX-  GRAIN        PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                      H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I       TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T (  . )  D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3      3  4 O     /          2    AZM  RT H  H  H  H  H  H  H  H  H  H   1   1
Y  G                          DESIG      VIR   COL            R     C            STRUCTUR-2  A  A  A  A  A  A  A  A  A  A    2   2
```

```
R SVY    0.00    0.00      THIS DATA IS ASSUMED TO BE MORE ACCURATE AND SHOULD BE USED
R SVY    0.00    0.00      FOR PLOTTING THE SECTION.
R SVY    0.00    0.00      THE LAST PART OF THIS HOLE WAS NOT GYRO LOGGED SO SPERRY SUN
R SVY    0.00    0.00      SINGLE-SHOT DATA WILL BE USED TO COMPLETE THE PLOT.

/        0.00   21.95  21.95          OVER                                P
L
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       21.95   24.82      CLASTS RANGE FROM 1CM TO 4CM.  THIS IS THE SAME AS THE BEDDED
R       21.95   24.82      ARSI EXCEPT THE BEDDING IS CHAOTIC AND HAS BEEN BRECCIATED.
R       21.95   24.82      THIS COULD BE FROM DEWATERING AND OR SLUMPING.

/       21.95   66.08  44.13            ARSI        SN= BD SS A I = J       P  2 BD      63          D. L- HE D*
L                                            3A     SI+ //                                           L-    D-

/       21.95   24.82   2.87          X ARSI        *S1 BR SS               R                        D. L- HE D*
L                                            3A     SI=                                              L-    D(
R       21.95   66.08      THE PY, HE CONC.  IN THE SAND AND SILT BEDS.  DIPS RANGE FROM 60
R       21.95   66.08      TO 65 DEGREES.  ALONG FRACTURES AND SHEAR PLANES A THIN, SOFT
R       21.95   66.08      WHITE TO PUPLISH MINERAL IS FOUND.  THERE IS SOME SLUMPING AND
R       21.95   66.08      BRECCIATED AREAS WHICH ARE REPEATED OUT.

/       34.09   35.61   1.52          X ARSI        *S1 BR SS               R                        D.       D*
L                                            3A     SI+                                              D-
R       34.09   35.61      THIS IS THE SAME ARSI BUT WITH CHAOTIC BEDDING AND IS BRECCIATED
R       34.09   35.61      THE GROUND WAS BLOCKY HENCE POORER RECOVERY.  THIS SIMILAR TO
R       34.09   35.61      THE ABOVE.

/       37.97   45.55   7.58          X ARSI        *S1 BR SS               R                        D.    HE D)
L                                            3A     SI+                                                    D(
R       37.97   45.55      THE GROUND IS BLOCKY, THE CORE IS ALL SMALL CHUNKS.  A SOFT
R       37.97   45.55      WHITE, GREASY MINERAL IS FOUND AS A COATING ALONG FRACTURES.
R       37.97   45.55      THE HE AND PY ARE FOUND IN THE SAND CLASTS PREDOMINATLY.

/       46.63   52.42   5.79          X WEDG                                R
L
R       46.63   52.42      A HALL AND ROWE STEEL WEDGE WAS USED TO STEEPEN THE HOLE.
R       46.63   52.42      THEREFORE THERE IS A REPEAT OF CORE FROM 46.63 TO 52.42M AND THE
R       46.63   52.42      BOTTOM OF THE WEDGE IS AT 52.42M.

/       53.20   53.44   0.24          X ARSI        *S2 BR SS               R                                D-
L                                            3A

/       58.00   61.20   3.20          X ARSI        SN)                     R                  D-
L                                                  SI+

/       63.10   66.08   2.98          X ARSI        SN= BD SS A I = J       R  2 BD      63          D. L- HE D*
L                                                  GGX

/       66.08   71.63   5.55            ARSI        SN= // DB A I / J       P  2 BD      60          D-    HE D*
L                                            3A     SI= SS                                   D.       D(    D(

/       67.00   70.10   3.10          X ARSI        SN= // DB A I / J       R  2 BD      89          D-    HE D*
L                                            3A     SI= SS                                   D.       D(    D(

/       68.28   71.63   3.35          X WEDG                                R
L
R       68.28   71.63      HALL AND ROWE STELL WEDGE, FULL STEEPENING.  WEDGE POINT IS AT
R       68.28   71.63      71.63M  AND THIS INTERVAL IS WHERE CORE WAS DUPLICATED.
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       71.63   83.76  12.13            ARSI       SN= //    A I 1 J       P  2 BD      68          D. D- HE D*
L                                          3A     SI+ DB SS                                        D-    D(
R       71.63   83.76      SOME PY IS SEEN AS REPLACEMENT CLASTS.

/       74.41   76.80   2.39          X ARSI       SN= BR DB               R                        D- D. HE D)
L                                          3A     SI= SS                                                 D(
R       74.41   76.80      THE PY IS FOUND DISS. IN THE SANDY BEDS BUT ALSO AS CLASTS.

/       81.99   83.76   1.77          X WEDG                               R
L
R       81.99   87.78      HALL AND ROWE STEEL WEDGE, FULL STEEPING.  STARTED CORING AT
R       81.99   87.78      81.99 BOTTOM AT 87.78.  THE CORE IS REPEATED FROM 84.43 TO
R       81.99   87.78      87.78M.

/       83.76  115.68  31.92            BRHM       *S2 DB R*         LR8   P    CL      90 <)       D- <) HE D)
L                                                     SS        2 O                       D.       C-    **

/       83.76   87.78   4.02          X WEDG                               R
L
R       83.76  115.68      THE SN CLASTS ARE ARSI.  THIS HAS CHAOTIC BEDDING AND SLUMPING
R       83.76  115.68      FEATURES.  THIS HAS NOT MOVED FAR FROM ITS SOURCE AND IS VERY
R       83.76  115.68      SIMILAR TO THE UNIT ABOVE IT.
R      106.50  109.60      BEDDING SHOWN BY SMALL SAND BEDS IS SEEN DIP IS 90 DEGREES.

/      115.68  126.49  10.81            BRPM GR CR *S= SS R*         KN3   P                        D.    HE *(
L                                                  *C+          =   LO=                            D(    D.
R      115.68  126.49      THE FIRST CHERT CLASTS ARE FOUND HERE.  BEDDING IS CHAOTIC DUE
R      115.68  126.49      TO THE RESULT OF DEBRIS FLOWS.  SOME OF THE PY IS FOUND
R      115.68  126.49      REPLACING THE CHERT PEBBLES.  THE MATRIX IS MUDDY AND SANDY
R      115.68  126.49      WHICH MAKES GREATER THAN 50% OF THE ROCK.
R      117.04  121.31      THE CORE HAS BEEN DUPLICATED FOR THIS INTERVAL.

/      119.18  121.31   2.13          X WEDG                               R
L
R      119.18  121.31      HALL AND ROWE STELL WEDGE, HALF AZM RIGHT HALF STEEPENING.

/      126.49  139.18  12.69            BRPM GR    *S2 *R SS         MT4   P                <-       <- C( HE D)
L                                                            2   LN)                             D-    D-
R      126.49  139.18      LARGER AND MORE CHERT PEBBLES ARE FOUND.  THE SANDY-MUDDY MATRIX
R      126.49  139.18      IS LESS A LOT OF THE ARGL CLASTS ARE ACTUALL ARSI CLASTS.
R      137.46  137.46      CHANGED FROM HQ TO NQ CORE, BECAUSE NO HQ WEDGES LEFT.

/      139.18  149.08   9.90            BRHT GR CR     *R SS         MP6   P                <(       <- C.    R)    D.
L                                                     H* G:         KO1                         C- D-

/      140.51  141.52   1.01          X WEDG                               R
L
R      140.51  141.52      CLAPPISON WEDGE, FULL STEEPENING.

/      143.17  143.41   0.24          X ARSN       SN3 LC    A F 3 G       R  1 BD      40                  L*
L                                          4A     SI= SS
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```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      146.90  147.40   0.50          X ARSI        SI1 LM LC A E 1 F       R  1 BD      70                  HE D-
L                                          3A     SN= SS                                                      D.

/      148.26  149.08   0.82          X SAND            G:    F I 5 D       R                <(              HE D*
L

/      149.08  154.68   5.60            BRHT GR     *S1 SS R*         MO2   P                <(       <-        D)
L                                          7A     *C4 H*        1 C JNS                        C.
R      149.08  154.68      PY IS FOUND IN THE MATRIX BUT ALSO IT IS SEEN STARTING TO
R      149.08  154.68      REPLACE CHERT CLASTS.

/      154.15  154.68   0.53          X BRHT GR     *S1 SS R*         MO2   R                <(       <-        D)
L                                                    GGX

/      154.68  160.94   6.26            ARSI GR CB SI=    SS A F 1 G       P  2 BD      20 <-                  D)
L                                          3A     SN)       7                   CV      90
R      154.68  160.94      MICROFAULTS ARE SEEN DISRUPTING THE BEDS.

/      156.36  157.88   1.52          X WEDG                                R
L
R      156.36  157.88      CLAPPISON WEDGE FULL STEEPENING

/      160.65  160.80   0.15          X SAND                E F 5 G       R                <-                D(
L                                          8A                8

/      160.94  174.03  13.09            BRPM GR     *S= SS R*         JP4   P                                  D(
L                                          5A                        JN+                        C.     <*
R      160.94  174.03      TRANSPORTATION OF THIS DEBRIS FLOW WAS IN A MUD, SHOWN BY THE
R      160.94  174.03      MATRIX.  THE CLASTS ARE CHAOTICALLY DISTRIBUTED AND THE MUP
R      160.94  174.03      FLOWS AROUND THE CLASTS.

/ FRG  174.03  183.84   9.81            BRHT GR         R* F*         LO1   P                                  D)    D.
L                                          7A         B*            JO7                        C.     <)
R      174.03  183.84      PY IS SEEN DISS.  BUT ALSO AS REPLACEMENT CLASTS.  GR IS FOUND
R      174.03  183.84      ALONG SHEARS AND AT THE EDGE OF CLASTS.

/      174.65  176.17   1.52          X WEDG                                R
L
R      174.65  176.17      CLAPPISON WEDGE FULL STEEPENING.

/      183.84  186.73   2.89            ARSI        SI1 LM    A E 1 F       P  2 BD      55                  D)
L                                          2A     SN+ SS    8                   CV      90

/      186.73  195.56   8.83            BRHT GR     SN= H* B*   =     LT6   P                                  D+
L                                          4A                        JO1                        C-
R      186.73  195.56      LARGE CLASTS ARE PRESENT, ONE SUCH CLAST AT 192.55 TO 192.94M.
R      186.73  195.56      SHOULD BE NOTED.  IT IS A CONGLOMERATE WITH A SANDY-PEBBLY
R      186.73  195.56      MATRIX.

/      192.94  194.46   1.52          X WEDG                                R
L
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       192.94  194.46      CLAPPISON WEDGE, FULL AZM RIGHT

/ FRG   195.56  209.70  14.14            ARSI        SI1        A E 1 F       P  2 BD      68                    L)
L                                            3A     SN)
R       207.87  211.23      HALL AND ROWE STEEL WEDGE, FULL AZM RIGHT.

/       209.70  233.04  23.34            BRHM GR         R* H*          MT8   P                                   D)    D.
L                                            3A         SS             IN+                          C-    <(
R       209.70  233.04      IN THE QUARTZ SIDERITE VEINS MINOR GL WAS FOUND.  THE BRHM IS
R       209.70  233.04      PROBABLY FORMED FROM LARGE SCALE SLUMPING OR SLIDES, SOFT
R       209.70  233.04      SEDIMENT FEATURES ARE PRESENT.

/       233.04  245.00  11.96            BRHM GR CB *S+ SS R*          LO7   P                                GR D*    D.
L                                            4A                 +    JK*                          C-    <* D)       D.
R       233.04  245.00      THE PY IS FOUND AS R* AND CONC.  IN THE *S BUT ALSO D THROUGHOUT
R       233.04  245.00      THE MATRIX AND ARGL CLASTS.  THE GL CAN BE FOUND ALONG SHEARS.
R       233.04  245.00      AS A COATING BUT IT IS ALSO AS SMALL FLAKES IN SPOTS.  WITHIN
R       233.04  245.00      THE QS VEINS GL AND SL ARE FOUND DISSEMINATED.

/       235.61  237.13   1.52          X WEDG                                R
L
R       235.61  237.13      CLAPPISON WEDGE, FULL AZM RIGHT.

/       245.00  260.41  15.41            BRHM GR         SS R*          KQ9   P                          D.       D*
L                                            4A                        LM+                          C-    <+

/       253.90  255.42   1.52          X WEDG                                R
L
R       253.90  255.42      CLAPPISON WEDGE, FULL AZM RIGHT.

/       260.41  267.31   6.90            BRHT GR     *B= SS R*          KU)   P                                   D)
L                                            6A     *S+ F*         =   DO7                          C-    <(
R       260.41  267.31      AT TOP OF THIS UNIT IT IS ALMOST ALL CHERT CLAST BUT TOWARDS THE
R       260.41  267.31      BASE MORE SAND CLASTS AND CLASTS OF BRXX ARE PRESENT.

/       267.31  293.80  26.49            BRHT GR     BR) SS R*          NT8   P                                   D*
L                                            3A     SN)    F*      +   KO=                          C)
R       267.31  293.80      THIS IS A CHAOTIC BRXX
R       273.41  276.58      A LARGE ARSI CLASTS.

/       293.80  295.80   2.00            BRPM            F* H*          LP2   P                                   D(
L                                            6A                        KO4                          C-

/       295.80  310.25  14.45            BRHT CR     SN= R* H*          OS8   P                <.                 R(
L                                            2A     *S= B*             LO=                          C*
R       295.80  310.25      CLASTS DOMINANTLY ARSI.

/ FRG   299.10  299.54   0.44          X CGXX SF         B* CU          LO2   R                <.                 B(
L                                            7A                        LN8                             #1
R       299.10  299.54      SIDERITIZED MATRIX.  SF OF ARGL ARSI CLASTS.

/       299.54  310.25  10.71          X BRHT CR     SN+ R* H*          OT8   R                <.                 R(
L                                            2A                 =      MO
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       299.54  310.25      CHERT CLASTS GENERALLY ROUNDED, SAND SUBROUNDED, ARGL/ARSI
R       299.54  310.25      ANGULAR.  THREE LARGE (1.5 TO 2M) CLASTS:  2 ARGL SEPARATED BY
R       299.54  310.25      ABOUT 5CM OF LOW CHERT BRHT, AND ONE ARSI TO ARSN CLAST.

/       310.25  311.88   1.63            BRHT SF        G;            JO1   P                                D.
L                                            8A                      EN8                      C.    <.
R       310.25  311.88      THIS BRHT IS GRADED TOWARDS THE TOP OF THE HOLE.

/       311.88  324.31  12.43            BRHT GR    *S= R* H*         MQ6   P                                D(
L                                            GR        B*      1 =   LO2                      C.    <(

/ FRG   317.78  318.08   0.30          X CGXX SF             G K 5 M       R                                D*
L                                            8A             5
R       317.78  318.08      END OF LITH. LOG
```

# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6802

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81AWH068 | COLLAR ELEVATION: | 1275.94 | AZIMUTH( DEG ) : | 0.00 | GEOLOGGED BY : | BHO + |
| TOTAL DEPTH/LENGTH : | 869.93 | NORTHING(- IF S): | 7002472.00 | VERTICAL ANGLE : | -90.00 | DATE (YY/MM/DD): | 810000 |
| CORE/HOLE DIAMETER : | HQNQ | EASTING (- IF W): | 436496.25 | CO-ORD SYSTEM : | UTM | PROJECT NUMBER : | J-S1 |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 30.00 | 146.90 | -89.47 |
| 2 | 61.00 | 169.10 | -87.40 |
| 3 | 91.00 | 151.30 | -85.47 |
| 4 | 122.00 | 131.50 | -86.75 |
| 5 | 152.00 | 124.20 | -86.42 |
| 6 | 183.00 | 121.80 | -86.10 |
| 7 | 213.00 | 117.80 | -86.00 |
| 8 | 244.00 | 117.20 | -85.38 |
| 9 | 274.00 | 120.10 | -84.13 |
| 10 | 305.00 | 132.80 | -84.92 |
| 11 | 335.00 | 151.50 | -84.20 |
| 12 | 366.00 | 164.00 | -80.53 |
| 13 | 396.00 | 164.50 | -77.00 |
| 14 | 427.00 | 157.50 | -74.20 |
| 15 | 457.00 | 154.20 | -69.00 |
| 16 | 488.00 | 154.30 | -64.80 |
| 17 | 518.00 | 154.80 | -58.13 |
| 18 | 549.00 | 158.60 | -49.80 |
| 19 | 579.00 | 162.80 | -46.00 |
| 20 | 610.00 | 166.30 | -43.00 |
| 21 | 640.00 | 165.90 | -40.50 |
| 22 | 671.00 | 166.60 | -39.00 |
| 23 | 701.00 | 167.90 | -37.33 |
| 24 | 724.00 | 167.30 | -37.00 |
| 25 | 735.79 | 166.50 | -37.50 |
| 26 | 747.98 | 165.00 | -36.50 |
| 27 | 760.17 | 166.50 | -36.50 |
| 28 | 772.36 | 167.00 | -36.67 |
| 29 | 784.56 | 166.00 | -36.50 |
| 30 | 796.75 | 165.00 | -36.00 |
| 31 | 808.94 | 164.00 | -36.00 |
| 32 | 821.13 | 166.00 | -36.00 |

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                                33          833.32          165.00          -35.00
                                34          845.52          166.50          -34.00
                                35          851.61          166.00          -33.75

R HED                       NQ CORE

   F   - I N T E R V A L -    CORE  T- %      TYPI- QAL  TEX-  GRAIN       PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                      H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T (  . )  D X TYPE  1  2 QM1  1  2 F F C A         1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3      3  4 O     /          2    AZM  RT H  H  H  H  H  H  H  H  H  H   1   1
Y  G                          DESIG      VIR   COL            R     C            STRUCTUR-2  A  A  A  A  A  A  A  A  A  A    2   2

R SVY    0.00    0.00      SURVEY DATA DONE BY GYROSCOPIC DIIRECTIONAL SURVEY
R SVY    0.00    0.00      SPERRY SUN OF CANADA.
R SVY    0.00    0.00       GYROSCOPIC DATA ENDS AT 724.00 M.  FROM 735.79 M TO 869.93 M
R SVY    0.00    0.00       WAS DONE BY SPERRY SUM MULTI-SHOT SURVEY.
R SVY  869.93  869.93       END OF WEDGED HOLE A.
R SVY    0.00    0.00       THE GYROSCOPIC DIRECTIONAL SURVEY IS CONSIDERED MORE ACCURATE
R SVY    0.00    0.00       THAN SPERRY SUN SINGLE AND MULTI-SHOT DATA.  THEREFORE THE
R SVY    0.00    0.00       SURVEY INFORMATION IN S000-S035 SHOULD BE USED FOR PLOTTING
R SVY    0.00    0.00       PURPOSES.
R SVY  735.79  851.61       10 DEGREES WAS ADDED TO ORIGINAL MULTI-SHOT DATA TO NULLIFY
R SVY  735.79  851.61       THE MAGNETIC DISCREPANCIES. ORIGINAL DATA MAY BE OBTAINED BY
R SVY  735.79  851.61       SUBTRACTING 10 DEGREES FROM THE AZIMUTH.

/        0.00  348.69 348.69            MISS                                P

/      348.69  357.16   8.47            BRPM                          NU8   P
L                                           5A    *S-       2 ) )   LN=

/      354.50  357.16   2.66          X ARSI CB    SN= BD    0 3 = 3       R  2                        <)    D)
L                                           2A
R      354.50  357.16      FRAG CUT BY QS VNS WITH MNR PYR. PYR ALSO DISSEM IN
R      354.50  357.16      SAND LAYERS.

/      357.16  364.40   7.24            BRHT                          NP6   P                <.      <.      D(
L                                           6A    *S)       2   )   LP3

/      364.40  367.75   3.35            BRHT                          KQ4   P                                D-
L                                           6A              5       IM6
R      364.40  367.75      SANDY INTERVAL(SANDY MTX).

/      367.75  379.30  11.55            BRHT                          OS7   P                          V.    D-
L                                           4A    *S+       2 ) +   M02

/      379.30  391.00  11.70            BRHM CB GR                    RS9   P                                D-
L                                           3A    *S)       2   )   LN)
R      379.30  391.00      SOME ARGL FRAGS ARE CARB(BLK)
R      379.30  391.00      A COUPLE OF NARROW (UP TO 5 CM) SAND ZONES ARE PYRITIZED.

/      379.60  383.15   3.55          X FAUL GR    GG1                     R
L
R      379.60  383.15      APPROX 60% OF INTV RUBBLY CORE-PROBABLE FAUL-LOCALLY GR(ALONG
R      379.60  383.15      SLIPS).

/      391.00  399.90   8.90            BRPM                          TT8   P                                D.
L                                           4A              3       JN1
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      399.90  412.18  12.28            BRHT        *S)                SU8   P                                   D-
L                                     5A                  3 ) )   KN=
R      399.90  412.18      ARSI CLASTS SHOW SOFT SED. SLUMP TEXTURES.

/ SIG  410.05  411.80   1.75          X SAND            MX     3 4 1 4       R                                   D(
L                                     7A                  8
R      410.05  411.80      APPEARS TO BE IN PLACE SAND BED RATHER THAN A FRAGMENT.
R      410.05  411.80      POSSIBLE MARKER BED. POSSIBLE LOAD STRUCTURES IN IRREGULAR
R      410.05  411.80      ARGL PARTINGS INDICATES THAT TOPS ARE DOWN HOLE. POSSIBILITY
R      410.05  411.80      THAT ARGL IS A FRAG HOWEVER, MAKES THIS UNCERTAIN.

/ SIG  412.18  420.32   8.14            BRHT        *S)                MT5   P                                   D-
L                                     6A                  2   )   MP4
R      412.18  420.32      TOP OF UNIT 2 EQUIV.-BRHT WITH CGCP FRAGS.

/        0.00    0.00   0.00          X ARGL CR                            R                #-        #+        #(
L                                     3A                                          #+
R      412.18  420.32      BREC. TEX INFILLED WITH SERICITE & LESSER QTZ, CARB & PYR.

/      420.32  426.60   6.28            BRHT                            OR3   P                                   D(
L                                     6A      *S+         2 5 +   JO=                          <*

/      426.60  429.40   2.80            BRHT        *S*                MS9   P                                   D*
L                                     4A                  3 ( *   KN+

/      429.40  434.60   5.20            BRHT        *S=                NS3   P                                   D-
L                                     5A                  2 2 =   MO3

/      434.60  442.04   7.44            BRHT                           PQ2   P                                   D-
L                                     7A      *S+         3 4 +   MO2

/      442.04  451.60   9.56            BRHT                           OU5   P                                   D-
L                                     5A      *S)         2 + )   MP4

/      443.50  445.75   2.25          X ARGL        SN=                      R
L                                     4A
R      443.50  445.75      FRAGMENT.

/      451.60  461.00   9.40            BRHT        S*.                OS2   P
L                                     6A      *S=         2 * =   JO6
R      451.60  461.00      MTX GENERALLY SANDY
R      451.60  461.00      POSSIBLE SULFIDE FRAGMENT (2CMS) AT 454M CONTAINS GL, PY & CAR-
R      451.60  461.00      BONATE (DOLOMITE?)
R      451.60  461.00      POD OR FRAG OF BITUMEN AT 457M =RHOMBIC BITUM. GRAINS WITH
R      451.60  461.00      INTESTICES FILLED BY QTZ (SEE SKETCH BELOW).

/      461.00  475.00  14.00            BRHT                           NU7   P                                   D.
L                                     5A                  2       LN 3                                        <.
R      461.00  475.00      IRREGULAR VEINLET OF SL & CALCITE WITH MINOR PY AT 461.0M.
R      461.00  475.00      MANY FRAGMENTS ARE ARSN.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       461.00  475.00      FRAG OF ARGL(?) 462.6-463M APPEARS TO BE HYDROTHERMALLY
R       461.00  475.00      ALTERED BLEACHED (LT GY) & LOCALLY SLIGHTLY SILICIFIED(?)
R       461.00  475.00      FRAG EXHIBITS INCIPIENT SOFT SED BRECCIATION.-
R       461.00  475.00      -CROSSCUT BY MINOR PY VEINLETS.

/       472.60  474.57   1.97          6 FAUL GR    GG1                     R
L

/       475.00  491.25  16.25            BRHT                          SU6   P                                  <-
L                                            6A                2 )   KN=

/       491.25  499.50   8.25            BRHM                          RU9   P                                  D-
L                                            4A              3 +     KN+

/       499.50  540.30  40.80            BRHM       SS1                TWX   P                <.       <.        8*
L                                            4A              6
R       499.50  540.30      PREDOMINANTLY ARSI FRAGMENTS APPEARS TO BE A SLIGHTLY
R       499.50  540.30      DISTURBED ARSI UNIT CORE TO BEDDING ANGLES VARY FROM
R       499.50  540.30      0 TO 90 DEGREES. FRAGMENTS ARE TOUCHING WITH NO WELL DEFINED MTX
R       499.50  540.30      . LATE FRACTURES (0.1%) FILLED WITH A DRUSY GROWTH OF
R       499.50  540.30      DOLOMITE? (MEDIUM GREEN, RHOMBOHEDRAL) AND BARITE
R       499.50  540.30      (CLEAR, ACICULAR) XLS .

/       540.30  547.80   7.50            BRHT       *S+                OT9   P                V-       V-        D-
L                                            5A              3 ) +   KN=

/       547.80  560.70  12.90            BRHT       *S1                SU8   P                V-       V-        D-
L                                            5A              4 1 1   JL*

/ FRG   547.80  550.85   3.05          X ARSI       SN2       0 3 2 3       R
L                                            4A

/ FRG   553.65  554.80   1.15          X CGCP                              R
L                                            6A

/       560.70  580.00  19.30            ARSI       SN3 SS (L 0 3 2 3       P  1 BD     U40                    L-
L                                            5A                                        B44

/       580.00  606.35  26.35            BRHM       *S)           )   TU9   P                        <-        L-
L                                            4A              7       KL*
R       580.00  606.35      UNIT APPEARS TO BE A SLIGHTLY DISRUPTED ARSI(20-30% SILT)
R       580.00  606.35      CONTAINS VERY LITTLE CHERT. ARSI FRAGS DOMINANT- THESE  SHOW
R       580.00  606.35      SOFT SED SLUMP TEX.

/       582.70  587.60   4.90          X FAUL GR                           R
L                                            4A
R       582.70  587.60      RUBBLY INTERVAL-LOCAL SLICKENSIDED GRAPHITIC SHEARS. NO FAUL GG.

/       606.35  619.02  12.67            BRHT                          MT2   P                                  D-
L                                            6A              3 6     LO2
R       606.35  619.02      EXACT SIGNIFICANCE UNCLEAR-MIDDLE OF INTV DOMINATED BY
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       606.35  619.02      CGCP-UNCLEAR WHETHER CGCP IS ORIGINAL SEDIMENT OR FRAGS.
R       606.35  619.02      -PROBABLY FRAG.

/ FRG   609.50  615.54   6.04          X CGCP                              R
L
R       609.50  615.54      INTERVAL DOMINATED BY CGCP PROBABLE FRAG. POSSIBLY
R       609.50  615.54      SEVERAL FRAGS.

/       619.02  636.82  17.80            BRHM                        OU9   P                >+                D)
L                                            5A                3 + +   LO=
R       619.02  636.82      BRECCIATED INTV 626.67-627.79 INFILLED WITH QUARTZ.

/       636.82  641.82   5.00            BRHT SD     S*(                 MQ4   P                                  D.
L                                                    *C) H*        (    KN6                          R*             D-

/ FGT   639.57  640.47   0.90          X ARSI                            R
L

/       641.12  641.82   0.70          X VEIN QZ                         R    V/      84                   D-     D-
L
R       636.82  641.82      BRECCIA MTX MATERIAL DOMINANTLY CONSISTS OF ANGULAR SAND TO
R       636.82  641.82      GRIT SIZE CHERT FGTS ALTERATION RIMS COMMON SOME SIDERITIZED
R       636.82  641.82      ANGULAR FGTS IN MTX TRACE SL AND GL IN MTX

/       641.82  656.40  14.58            SAND SD     *CI MX G; H K 4 O   3   P            U   >+                D.     D.
L                                            6A         B* F* 4          7                          D+             D-
R       641.82  656.40      THIS SEQUENCE MAY REPRESENT 2 BOUMA AB CYCLES. NOTABLE FEATURES
R       641.82  656.40      OF SAND UNITS INCLUDE 20% ANGULAR BLEACHED CH FRAGS.
R       641.82  656.40      ARGILLITE FRAGS & MTX PREFERENTIALLY SIDERITIZED.
R       641.82  656.40      MNR SL DISSEM LOCALLY IN MTX.
R       641.82  656.40      MNR SL, GL & PY IN QTZ VNS.

/       643.30  644.92   1.62          X CGXX SD                         MQ3   R
L                                            6A                8     C MN7                          D=
R       643.30  644.92      SIDERITE OCCURS AS DISSEM & ALSO AS VEINLETS CROSS-CUTTING FRAGS

/       646.00  646.90   0.90          X CGXX                            LN3   R                                  D.     D.
L                                            6A                6     C LN7                          D-

/       655.15  656.40   1.25          X CGXX                            LO2   R                          D+      D+
L                                            6A                5     C LO6

/       656.40  664.76   8.36            BRHT        *S=               QS6   P
L                                            5A                2   =   IN2                          D*      D+
R       656.40  664.76      FINE MTX CONSISTS OF GRIT SIZE ANGULAR FGTS-BLEACHED RIMS COMMON
R       656.40  664.76      . PY SELECTIVELY COATS OR REPLACES PEBBLE SIZE CHT FRAGS.

/       664.76  669.06   4.30            BRHM CR                       QS9   P
L                                                                     JK)

/       669.06  678.70   9.64            BRHT                          QS7   P                <=                #1     #)
L                                                                     LO3                                            #)
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RO LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       669.06  678.70      PY,GL,SL LOCALIZED IN CHT FRAG MTX,COMMONLY FORMING REPLACEMENT.

/       678.70  684.20  5.50              BRHM SF         ST            OT9   P                V=        #+        #)     #*
L                                            SA                 4        LM)                                                #*
R       678.70  684.20      MTX BTWN BRX FRAGS CONTAINS PY GL SL & CA OF HYDROTHERMAL ORIGIN
R       678.70  684.20      . MOSTLY INFILLING MTX & REPLACING CHT FRAGS. POSSIBLY A COUPLE
R       678.70  684.20      OF SULFIDE FRAGS.

K US1   684.20  684.20  0.00

/       684.20  685.95  1.75              LMSX SL CB S*) BN LM                P  1 BD      T50 <(                D+     L)
L                                            GL CH6                                       B50                            L2
R       684.20  685.95      SL LAM ALTERNATING WITH M & DK GY CHT BANDS UP TO 10 CMS. ZONE
R       684.20  685.95      IS SILICEOUS. SL IS YW & L-M BN. PYR GENERALLY OCCURS AS DISSEM
R       684.20  685.95      GRAINS. UPPER 20 CMS BRECCIATED & CONTAINS SULFIDE & BLK CHT
R       684.20  685.95      CLASTS. ZONE V CALC. OCCASIONAL WAVY LAMINAE.

/       685.95  687.14  1.19              MSSX SL GL CH4 MX                   P                <(                M1     M3
L                                            CB                                                                             M3
R       685.95  687.14      IRREG INTGWN SL GL PY CHT & CALC.

/       687.14  690.44  3.30              LMSX SL GL CH5 BN LM                P  1 BD      T40 <*                D+     L=
L                                            CB      SS LC                                                                  L3
R       687.14  690.44      PRED LM & BN SL & CH. BDG IN PT SL CONVOLUTE, WAVY & DISCONT.
R       687.14  690.44      LOCAL SLUMP FOLDING. SL RANGES IN COLOUR FROM YW TO M RD BN.

/       690.44  691.55  1.11              BNSX SL GL CH8 ST                   P  2 BD      T60 <+        <+        D-     <*
L                                                                                           B70                            L=
R       690.44  691.55      PRIMARILY A CHT ZONE WITH SL BANDS(THESE BANDS CONTAIN ^20%SL).
R       690.44  691.55      ZONE HAS BEEN SLIGHTLY FRACTURED SO THAT BEDDING IS TRUNCATED.
R       690.44  691.55      & DISPLACED. NARROW QTZ & CALC VNS FILL THESE FRACTURES. VNS
R       690.44  691.55      CONTAIN GL & MBN SL(AS OPPOSED TO EARLIER YW SL). MNR PYR OCCURS
R       690.44  691.55      ALONG STYLOLITES.

/       691.55  694.64  3.09              LMSX SL GL CH7 LM                   P  1 BD      T65 <)        <)        D)     L=
L                                            CB                                           B50                            L1
R       691.55  694.64      GENERALLY DELICATE LAMINATIONS-OCCASIONALLY WAVY & IRREGULAR.

/       694.64  696.16  1.52              BNSX SL GL CH9 BN ST                P  2 BD      T70 V+        V+        D(     L*
L                                            PY                                                                             L+
R       694.64  696.16      PRED BANDED CHT (LT & M GY) OCCASIONAL SL-RICH & MNR GL-RICH
R       694.64  696.16      LAM. SL, GL&PY ALSO OCCUR ALONG STYLOLITES. BANDS TEND TO BE
R       694.64  696.16      IRREG & DISCONTINUOUS BECAUSE OF FRAC.

/       696.16  702.59  6.43              LMSX SL GL CH7 LM BN                P  1 BD      T60 V+        V)        L)     L+
L                                            PY                                                                             L2
R       696.16  702.59      INTLAM SL & CHT(M-DK GY).SL GENERALLY DELICATELY LAM; OCC
R       696.16  702.59      WISPY & DISCONTIN. LOCAL GL LAM.

/       698.90  699.50  0.60            X FGSX SL GL CH6                      R                <+        <+                #+
L                                            PY                                                                             L1
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       698.90  699.50      LOCAL ZONE OF INCIPIENT BRECCIATION FRAGS OF INTLAM CHT & SL.
R       698.90  699.50      BREC. PROBABLY DUE TO SLUMPING. INTERSTICES BTWN FRAGS INFILLED/
R       698.90  699.50      SL, GL, PY & CA. ALSO LATE QTZ-CA VNS.

/       698.58  700.30   1.72          X LMSX SL GL CH7 LM BN              R  1 BD     T80 V+       V)       L)    L+
L

/       700.30  702.59   2.29          X LMSX SL GL CH7 LM BN              R  1 BD     T60 V+       V)       L)    L+
L

/       702.59  705.31   2.72            BNSX BA SL CH1 LM BN              P  1 BD     T65 <(          L7    L1    L1
L                                               GL                                BD     B70                        L1
R       702.59  705.31      DISCONTINUOUS BANDING & LAM, OCC SOMEWHAT BRECCIATED, WITH
R       702.59  705.31      INTERSTICES INFILLED WITH GL (LATE).

/       705.31  711.71   6.40            BNSX SL PY CH6 BN ST              P  2 BD     T75 <+       <) L2    L1    L)
L                                               BA                                     B80                        L1
R       705.31  711.71      INTERBANDED CHT(DK GY) & BARITE. BARITE ZONES CONTAIN SL & PY
R       705.31  711.71      RICH LAM & OCC GL. PYR ALSO OCCURS AS DISSEM ROUNDED GRAINS.
R       705.31  711.71      CHT BANDS ARE CUT BY LATE QZ VNS WITH MNR CALCITE. THESE
R       705.31  711.71      TEND TO BE PERPENDICULAR TO BDG. STYLOLITES TEND TO DEVELOP
R       705.31  711.71      ALONG CONTACT BTWN CHT & BARITE/ SULFIDE BANDS, AND WITHIN
R       705.31  711.71      CHT BANDS. PYRITE OCCURS ALONG SOME STYLOLITES.

/       711.71  714.76   3.05            BNSX SL GL CH6 BN                 P  2 BD     T80 <)       <*       L/    L2
L                                               PY                                     B80                        L1
R       711.71  714.76      INTBANDED M GY & BLK CHT & SILICEOUS ZONES RICH IN PY & GL WITH
R       711.71  714.76      LESSER SL- BANDS ARE WAVY & DISCONTINUOUS OCCASIONAL DISRUPTION
R       711.71  714.76      OF BEDDING & INFILLING BY GL

/       714.76  718.15   3.39            BNSX SL GL     ST BN              P  1 BD     T80 <+       <) L1    L=    L=
L                                               PY     LM                                B36                        L1
R       714.76  718.15      ZONE COMPRISES BANDS OF M&DK GY CHT ALTERNATING WITH INTERVALS
R       714.76  718.15      OF LAMINATED SL, PY,BA&GL. CHT BRECCIATED LOCALLY & INFILLED
R       714.76  718.15      WITH PY & GL&SL LOCAL STYLOLITES INFILLED WITH PYR. AN INTEREST-
R       714.76  718.15      ING FEATURE IS THE PRESENCE OF CHT GRIT IMMEDIATELY ALONG
R       714.76  718.15      CONTACT BETWEEN CHT BANDS & SULFIDE RICH BANDS. (SEE SKETCH IN
R       714.76  718.15      GEOFORM).
R       714.76  718.15         3 POSSIBLE ORIGINS:
R       714.76  718.15      (1) DETRITAL-UNLIKELY
R       714.76  718.15      (2) RIP-UP CLASTS - UNLIKELY AS THEY OCCUR ABOVE & BELOW CHT
R       714.76  718.15          BANDS.
R       714.76  718.15      (3) BRECCIA CLASTS FORMED DURING DEFORMATION BY DUCTILITY
R       714.76  718.15          CONTRAST BETWEEN CHT & SULFIDE.
R       714.76  718.15      DISSEM GL IN UPPER 10 CMS OF ZONE.
R       714.76  718.15      BDG HAS LOCALLY UNDERGONE COMPLEX FOLDING(SLUMPING?). BEDDING
R       714.76  718.15      PINCHES & SWELLS LOCALLY.

/       718.15  719.69   1.54            CHER           MX                 P  1            <+                    #.
L                                               4A                                                          #*    #-
R       718.15  719.69      MOTTLED. LOCALLY BRECCIATED & INFILLED WITH MNR SL, PY & GL
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      719.69  724.51   4.82            BNSX SL BA CH3 BN LM              P                <)        <) L4    L)    L=
L                                             GL     LC                                                          L2
R      719.69  724.51      BEDDING IN UPPER 0.5M HIGHLY DISTURBED-CONVOLUTE- REST OF
R      719.69  724.51      INTV COMPRISES INTBANDED CHT&BARITE/SULFIDE BANDS. SULFIDE
R      719.69  724.51      BANDS GENERALLY DELICATELY LAM INTERNALLY LOCALLY DISRUPTED.

/      720.32  720.33   0.01          X BNSX SL BA CH3 BN LM              R    BD      55 <)        <) L4    L)    L=
L

/      721.10  721.11   0.01          X BNSX SL BA CH3 BN LM              R    BD      78 <)        <) L4    L)    L=
L

/      721.75  721.76   0.01          X BNSX SL BA CH3 BN LM              R    BD      68 <)        <) L4    L)    L=
L

/      722.35  722.36   0.01          X BNSX SL BA CH3 BN LM              R    BD      60 <)        <) L4    L)    L=
L

/      723.60  723.61   0.01          X BNSX SL BA CH3 BN LM              R    BD      70 <)        <) L4    L)    L=
L

/      724.51  730.52   6.01            BNSX BA SL CH4 LM BN              P  2 BD     T72             L4    L+    L=
L                                             GL     ST                                                          L1
R      724.51  730.52      ALTERNATING CHT&BARITE/SULFIDE BANDS. CHT LOCALLY BRECCIATED
R      724.51  730.52      & INFILLED/ PYR, SL & GL. LOCALLY SLUMP FOLDING.

/      726.30  726.31   0.01          X BNSX BA SL CH4 LM BN              R  2 BD     T58             L4    L+    L=
L

/      727.60  727.61   0.01          X BNSX BA SL CH4 LM BN              R  2 BD     T50             L4    L+    L=
L

/      730.00  730.01   0.01          X BNSX BA SL CH4 LM BN              R  2 BD     T30             L4    L+    L=
L

/      730.52  731.41   0.89            CHER           MX ST              P
L                                          2A
R      730.52  731.41      CHT POSSIBLY ARG OR CARB .

/      731.41  734.40   2.99            BNSX SL GL CH6 LM BN              P  1 BD     T48 <+          L2    L=    L+
L                                             PY        ST                          B20                           L1
R      731.41  734.40      INTBANDED CHT&SULFIDE/SULFATE LOCAL SLUMP FOLDING.

K LS1  734.40  734.40   0.00

/      734.40  736.70   2.30            ARGL SF CR     ST                 P  5 BD     T20 <)          B-    L*    L.
L                                          4A                                      B54
R      734.40  736.70      CONTAINS LOCAL BANDS OF LAM CHT& PYR WITH MNR GL.
R      734.40  736.70      POSSIBLE SPOTTED BARITE 736.55-736.60.

/      736.70  751.64  14.94            BRHM SF                     LL*   P                <)              *)
L                                          4A              3       ST9
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       736.70  751.64      ZONE IS SILICIFIED, PARTICULARLY UPPER HALF.

K US2   751.64  751.64   0.00

/       751.64  759.04   7.40            BNSX GL PY CH5 MX BN              P  4 BD     T70 <*          L=    Q1    X4
L                                            4A BA
R       751.64  759.04      ZONE IS MAINLY CHT&GL. LOCALLY BANDED, BUT OVERALL TEXTURE IS
R       751.64  759.04      QUITE MASSIVE. CHT BANDS ARE COMMONLY DEFORMED & BRECCIATED.
R       751.64  759.04      PULL APART STRUCTURES ARE COMMON IN CHT BDS, WITH INTERSTICES
R       751.64  759.04      INFILLED WITH COARSELY XL GL. (SEE DIAGRAM IN GEOFORM) . THIS
R       751.64  759.04      MAY SUGGEST RE-XL & RE-MOB OF GL DURING TECTONISM. PYRITE OCCURS
R       751.64  759.04      AS IRREGULAR PTCHS WITH GL, & LOCALLY AS NARROW BANDS IN CHT.

/       753.00  753.01   0.01          X BNSX GL PY CH5 MX BN              R  4 BD     T30 <*          L=    Q1    X4
L

/       754.99  755.00   0.01          X BNSX GL PY CH5 MX BN              R  4 BD     T72 <*          L=    Q1    X4
L

/       758.10  758.11   0.01          X BNSX GL PY CH5 MX BN              R  4 BD     T44 <*          L=    Q1    X4
L

/       752.76  753.66   0.90          X BNSX GL PY CH5 MX BN              R  2 BD     T70 <*          L=    X3    X3
L

/       759.04  760.75   1.71            BNSX BA GL CH3 BN LC              P    BD     T50             L5    L+    L1
L                                                PY                              BD     B50
R       759.04  760.75      CONVOLUTE BEDDING-LOCALLY DISCONTINUOUS.
R       759.04  760.75      LOCALLY CALCAREOUS.

/       760.75  762.44   1.69            BNSX BA SL CH1 BN LM              P  2 BD     T60             L7    L+    L)
L                                                GL                                     B50                         L)
R       760.75  762.44      BEDDING WAVY, LOCALLY FOLDED, LOCALLY DISCONTINUOUS.
R       760.75  762.44      BARITIC ZONE.
R       760.75  762.44      LOCALLY CALCAREOUS.

/       762.44  764.13   1.69            BNSX BA GL CH3 BN LM              P  2 BD     T50 <(          L6    L+    L1
L                                                PY                                     B46
R       762.44  764.13      WAVY BANDS, LOCALLY DISPLACED BY MNR FAULTS. LOCAL PULL APART
R       762.44  764.13      STRUCTURES.

/       764.13  769.18   5.05            BNSX BA SL CH6 BN LM              P  2 BD     T40 <*       <( L3    L+    L*
L                                                PY                                     B40                         L=
R       764.13  769.18      ALTERNATING CHT & BARITE/SULFIDE BANDS. BANDING GENERALLY QUITE
R       764.13  769.18      REGULAR; LOCALLY SLIGHTLY DISTURBED.

/       769.18  771.49   2.31            MSSX GL PY CH1                    P    BD     T50             X4    X1    X4
L                                                BA                                     B50
R       769.18  771.49      GENERALLY MASSIVE; LOCALLY INTBND WITH CHT. LOCALLY CHT BANDS
R       769.18  771.49      ARE BRECCIATED & INFILLED WITH GL.

/       771.49  774.98   3.49            BNSX SL BA CH6 BN LM              P  2 BD     T56 <)       <( L3    L+    L*
L                                                PY                                     B50                         L1
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       771.49  774.98      INTBANDED & INTLAM CHT, BA&SL WITH MNR GL. GENERALLY REGULAR BDG
R       771.49  774.98      ; LOCALLY SLIGHTLY DISTURBED.
R       771.49  774.98      MNR GL VEINLETS IN CHT BANDS- SUGGESTS RE-MOBILIZATION.
R       771.49  774.98      QTZ VNS RESTRICTED TO CHT BANDS.

/       774.98  798.66  23.68            BNSX SL BA CH7 BN LM              P  3 BD     T50 <)       <( L3    L)    L*
L                                                                                                                   L=
R       774.98  798.66      SILICEOUS ZONE.

/       775.46  775.47   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T20 <)       <( L3    L+    L*
L

/       776.10  776.11   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T50 <)       <( L3    L+    L*
L

/       783.40  783.41   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T60 <)       <( L3    L+    L*
L

/       784.40  784.41   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T30 <)       <( L3    L+    L*
L

/       785.30  785.31   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T55 <)       <( L3    L+    L*
L

/       793.20  793.21   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T30 <)       <( L3    L+    L*
L

/       793.80  793.81   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T60 <)       <( L3    L+    L*
L

/       795.16  795.17   0.01          X BNSX SL BA CH6 BN LM              R  2 BD     T50 <)       <( L3    L+    L*
L

/       797.10  798.66   1.56          X BNSX SL BA CH6 BN LM              R  2 BD     T40 <)       <( L3    L+    L*
L                                                                                     B40

/       798.66  800.40   1.74            CHER PY        BN ST              P  2 BD     T60 <)       <*       #*    #)
L                                            4A                                       B70
R LIT   798.66  800.40      CHT BANDS LOCALLY BRECCIATED.INFILLED WITH PYR & A DK GY
R LIT   798.66  800.40      METALLIC MINERAL, SOME OF WHICH MAY BE GL. UNKOWN MINERAL IS
R LIT   798.66  800.40      STEEL GY, PRISMATIC, WITH PRONOUNCED VERTICAL STRIATIONS.
R LIT   798.66  800.40      HARNESS^4. STREAK-GREY. MINERAL IS POSSIBLY STIBNITE. ALSO
R LIT   798.66  800.40      OCCURS IN LATE QTZ-CALCITE VEINS.
R       798.66  800.40      PYR ALSO OCCURS AS LAM.

/       800.40  802.73   2.33            BNSX SL PY CH9 BN                 P  3 BD     T60 <+       L*       L+
L                                            4A                                       B40                            L)
R       800.40  802.73      LOCAL BRECCIATION AND MINOR FOLDING. UPPER 0.7 M BRECCIATED
R       800.40  802.73      AND INFILLED WITH PY AND GREY METALLIC MIN-POSSIBLY STIBNITE.
R       800.40  802.73      INTV COMPRISES ALTERNATING CHT & SULFIDE-RICH BANDS(PYR, SL,
R       800.40  802.73      CHT, CALCITE).
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

K LS2  802.73  802.73   0.00

/      802.73  806.75   4.02            BRHM SF     SN=                    P                <)                L)
L                                          4A
R      802.73  806.75      5 CM CHT BAND 806.70 - 806.75.
R      802.73  806.75      DECREASING SILICIFICATION AWAY FROM ORE ZONE.
R      802.73  806.75      PYR ALSO OCCURS IN NARROW VEINLETS.

/      806.75  821.00  14.25            ARSI CR         BD     0 3 = 3     P  2 BD      T58 V)        <-        <.
L                                          4A                                          B42
R      806.75  821.00      BDG LOCALLY DISRUPTED, BRECCIATED.
R      806.75  821.00      SLIGHTLY CARBONACEOUS.
R      806.75  821.00      MINOR BANDS OF M GN GY MDSTN, POSSIBLY CHTY.

/      821.00  825.02   4.02            BRHM        *S)                ST9  P                              >+    D.
L                                          4A                4    )

/      825.02  836.60  11.58            SAND            MX G; 3 J 5 M      P            U                      #=
L                                          6A                                                      D+
R      825.02  836.60      UPPER 30 CMS BRHT. LOCALLY BRECCIATED(SOFT SED?) FRACS INFILLED
R      825.02  836.60      WITH PYR & SID. PYR AND SID CMT COM BTWN 830.5 & 836.60.
R      825.02  836.60      BASE OF INTV EXHIBITS GRADING FROM CGXX TO SAND (OVER 65 CMS).

/      836.60  849.86  13.26            BRPM        *C) H* F*          RU7  P                                    <.
L                                          5A                2      O MN2                          D)
R      836.60  849.86      PEBBLY MUDSTONE/SANDSTONE MTX; CHT-RICH.

/ FRG  841.04  847.12   6.08          X ARSN        SN3 LR                 R  2
L                                          5A                                                                  L.
R SIG  841.04  847.12      5 CM GN GY CHT BAND 846.38-846.43 M CONTAINS V F DISSEM PR.
R      841.04  847.12      SAND BAND 846.0-846.38 M.

/      849.86  855.11   5.25            CGXX        *C= R* F*          L0=  P  6             >+
L                                          6A                3      O KN7                          D-
R      849.86  855.11      PEBBLY MUDSTONE/SANDSTONE MTX. MNR CHT CLASTS WITH NTERVAL
R      849.86  855.11      REPLACEMENT BY PR.
R      849.86  855.11      INTV COMPRISES THICKLY INTBD CGXX & SAND BEDS. SAND BEDS ARE
R      849.86  855.11      MASSIVE, M-C GR. APPEARS TO BE 5 CYCLES RANGING FROM CGXX  TO
R      849.86  855.11      SAND. CYCLES UP TO 1.8M THICK. POSSIBLE INVERSE GRADING OVER
R      849.86  855.11      A FEW CM ALONG CGXX-SAND CONTACT.

/      855.11  862.93   7.82            CGXX PY     *B) F* H*          L01  P                                    #=
L                                          6A     *C+            ) C L08                          #)
R      855.11  862.93      BRECCIA CLASTS COMPRISE SMALL (2 MM) ANGULAR & SHARD-LIKE FRAGS
R      855.11  862.93      IN WH CHT CMT.
R      855.11  862.93      LOCALLY V PYRITIC(CMT); OCCASIONAL SIDERITE IN MTX.

/      862.93  869.93   7.00            ????                               P
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A UMM                                  RQD            SP.GR.
A TYP                                   CM                SG
A MTH                                  B-B             WEIGH
A LAB                                  FLD               FLD

R ASY    0.00    0.00      RCOV=RECOVERY(C17-20) IS MEASURED IN CM BLOCK TO BLOCK(B-B)

R ASY    0.00    0.00      RQD=ROCK QUALITY DESIGNATOR(C27-32)MEASURED IN CM BLOCK TO BLOCK

R ASY    0.00    0.00          RQD IS THE TOTAL LENGTH (BETWEEN BLOCKS) OF PIECES OF CORE

R ASY    0.00    0.00          AT LEAST 2-1/2 TIMES DIAMETER OF CORE TO NEAREST CM, DIVIDED

R ASY    0.00    0.00          BY LENGTH OF INTERVAL = BLOCK(TO) MINUS BLOCK(FROM)TIMES 100

R ASY    0.00    0.00      CM INDICATES THAT MEASUREMENTS ARE IN CM'S WHICH ARE TO BE RIGHT

R ASY    0.00    0.00          JUSTIFIED AGAINST THE DOUBLE VERTICAL LINE AT RIGHT MARGIN

R ASY    0.00    0.00          OF EACH FIELD.

R ASY    0.00    0.00      B-B=BLOCK-TO-BLOCK (DRILLERS BLOCKS). ENTER METRAGE OF ONE BLOCK

R ASY    0.00    0.00          AS THE TO OF ANY INTERVAL AND THE METRAGE OF THE NEXT BLOCK.

R ASY    0.00    0.00          ADDITIONAL POINTS (FROM-TO'S) CAN BE ESTABLISHED BETWEEN

R ASY    0.00    0.00          BLOCKS TO BRACKET SPECIFIC INTERVALS OF LOCALIZED POOR

R ASY    0.00    0.00          RECOVERY. B-B IS ENTERED RIGHT JUSTIFIED IN EACH FIELD IN

R ASY    0.00    0.00          THE AMTH HEADER.

R ASY    0.00    0.00      THE FIRST INTERVAL, THROUGH THE OVERBURDEN, WITH ZERO RECOVERY,

R ASY    0.00    0.00          SHOULD BE ENTERED FIRST -- SEE BELOW.

A 100  348.69  350.22   153              156
A 100  350.22  351.74   152              143
A 100  351.74  355.09   271              166
A 100  355.09  358.14   252               72
A 100  358.14  361.49   298              228
A 100  361.49  364.85   278              113
A 100  364.85  366.37    00               00
A 100  366.37  368.20   134               78
A 100  368.20  369.72   102               13
A 100  369.72  372.77   267              110
A 100  372.77  375.82   189               99
A 100  375.82  378.56   244               97
A 100  378.56  379.78    82               12
A 100  379.78  381.30   121               27
A 100  381.30  383.13   130               00
A 100  383.13  385.57   183               51
A 100  385.57  387.10    00               00
A 100  387.10  388.32    69               00
```

| A UMM | | | | RQD | SP.GR. |
|---|---|---|---|---|---|
| A TYP | | | | CM | SG |
| A MTH | | | | B-B | WEIGH |
| A LAB | | | | FLD | FLD |
| A 100 | 388.32 | 389.84 | 68 | 00 | |
| A 100 | 389.84 | 392.28 | 192 | 105 | |
| A 100 | 392.28 | 395.33 | 262 | 37 | |
| A 100 | 395.33 | 396.85 | 119 | 31 | |
| A 100 | 396.85 | 397.76 | 78 | 19 | |
| A 100 | 397.76 | 399.90 | 172 | 42 | |
| A 100 | 399.90 | 402.95 | 263 | 145 | |
| A 100 | 402.95 | 405.99 | 282 | 147 | |
| A 100 | 405.99 | 407.52 | 153 | 117 | |
| A 100 | 407.52 | 408.74 | 00 | 00 | |
| R ASY | 407.52 | 408.74 | WEDGE | | |
| A 100 | 408.74 | 409.65 | 53 | 26 | |
| A 100 | 409.65 | 411.18 | 132 | 63 | |
| A 100 | 411.18 | 413.61 | 192 | 70 | |
| A 100 | 413.61 | 416.66 | 295 | 192 | |
| A 100 | 416.66 | 418.95 | 218 | 92 | |
| A 100 | 418.95 | 419.71 | 48 | 00 | |
| A 100 | 419.71 | 420.32 | 7 | 00 | |
| A 100 | 420.32 | 421.84 | 149 | 66 | |
| A 100 | 421.84 | 423.76 | 184 | 98 | |
| A 100 | 423.76 | 425.81 | 172 | 58 | |
| A 100 | 425.81 | 426.42 | 54 | 17 | |
| A 100 | 426.42 | 428.85 | 210 | 91 | |
| A 100 | 428.85 | 431.90 | 305 | 198 | |
| A 100 | 431.90 | 432.51 | 35 | 00 | |
| A 100 | 432.51 | 434.22 | 171 | 140 | |
| A 100 | 434.22 | 434.40 | 18 | 00 | |
| A 100 | 434.40 | 436.78 | 234 | 78 | |
| A 100 | 436.78 | 439.83 | 298 | 207 | |
| A 100 | 439.83 | 441.05 | 118 | 100 | |
| A 100 | 441.05 | 441.96 | 00 | 00 | |
| A 100 | 441.96 | 442.87 | 75 | 15 | |
| A 100 | 442.87 | 444.40 | 143 | 106 | |
| A 100 | 444.40 | 447.90 | 303 | 210 | |
| A 100 | 447.90 | 451.10 | 305 | 170 | |
| A 100 | 451.10 | 453.24 | 182 | 117 | |
| A 100 | 453.24 | 456.29 | 305 | 116 | |
| A 100 | 456.29 | 459.33 | 304 | 179 | |
| A 100 | 459.33 | 462.17 | 250 | 126 | |
| A 100 | 462.17 | 465.28 | 311 | 207 | |
| A 100 | 465.28 | 468.48 | 302 | 80 | |
| A 100 | 468.48 | 470.31 | 181 | 69 | |
| A 100 | 470.31 | 472.74 | 231 | 96 | |
| A 100 | 472.74 | 473.35 | 48 | 00 | |
| A 100 | 473.35 | 473.66 | 22 | 00 | |
| A 100 | 473.66 | 474.57 | 44 | 00 | |
| A 100 | 474.57 | 475.18 | 46 | 00 | |
| A 100 | 475.18 | 477.01 | 181 | 27 | |
| A 100 | 477.01 | 477.47 | 46 | 25 | |
| A 100 | 477.47 | 480.36 | 289 | 198 | |
| A 100 | 480.36 | 483.41 | 292 | 192 | |

| A UMM | | | | RQD | SP.GR. |
|---|---|---|---|---|---|
| A TYP | | | | CM | SG |
| A MTH | | | | B-B | WEIGH |
| A LAB | | | | FLD | FLD |
| A 100 | 483.41 | 485.55 | 214 | 59 | |
| A 100 | 485.55 | 486.77 | 119 | 00 | |
| A 100 | 486.77 | 487.98 | 98 | 13 | |
| A 100 | 487.98 | 489.20 | 110 | 33 | |
| A 100 | 489.20 | 489.81 | 53 | 32 | |
| A 100 | 489.81 | 492.25 | 224 | 61 | |
| A 100 | 492.25 | 493.17 | 85 | 00 | |
| A 100 | 493.17 | 494.08 | 68 | 00 | |
| A 100 | 494.08 | 495.91 | 162 | 65 | |
| A 100 | 495.91 | 498.96 | 295 | 159 | |
| A 100 | 498.96 | 502.01 | 296 | 179 | |
| A 100 | 502.01 | 505.05 | 291 | 114 | |
| A 100 | 505.05 | 508.10 | 283 | 141 | |
| A 100 | 508.10 | 510.24 | 191 | 89 | |
| A 100 | 510.24 | 513.28 | 297 | 215 | |
| A 100 | 513.28 | 516.33 | 300 | 146 | |
| A 100 | 516.33 | 518.16 | 183 | 138 | |
| A 100 | 518.16 | 519.68 | 124 | 43 | |
| A 100 | 519.68 | 522.12 | 202 | 72 | |
| A 100 | 522.12 | 523.95 | 159 | 57 | |
| A 100 | 523.95 | 526.39 | 244 | 164 | |
| A 100 | 526.39 | 529.44 | 305 | 221 | |
| A 100 | 529.44 | 531.88 | 244 | 107 | |
| A 100 | 531.88 | 534.01 | 196 | 105 | |
| A 100 | 534.01 | 537.06 | 289 | 120 | |
| A 100 | 537.06 | 540.11 | 305 | 178 | |
| A 100 | 540.11 | 543.15 | 301 | 139 | |
| A 100 | 543.15 | 545.59 | 221 | 65 | |
| A 100 | 545.59 | 548.64 | 273 | 140 | |
| A 100 | 548.64 | 550.77 | 205 | 94 | |
| A 100 | 550.77 | 553.21 | 214 | 89 | |
| A 100 | 553.21 | 553.82 | 61 | 39 | |
| A 100 | 553.82 | 554.43 | 59 | 59 | |
| A 100 | 554.43 | 556.87 | 241 | 207 | |
| A 100 | 556.87 | 559.92 | 294 | 240 | |
| A 100 | 559.92 | 562.97 | 295 | 260 | |
| A 100 | 562.97 | 566.01 | 291 | 242 | |
| A 100 | 566.01 | 569.06 | 290 | 216 | |
| A 100 | 569.06 | 572.11 | 295 | 266 | |
| A 100 | 572.11 | 575.16 | 294 | 257 | |
| A 100 | 575.16 | 578.21 | 291 | 229 | |
| A 100 | 578.21 | 581.25 | 286 | 188 | |
| A 100 | 581.25 | 583.39 | 176 | 224 | |
| A 100 | 583.39 | 584.30 | 78 | 28 | |
| A 100 | 584.30 | 584.91 | 40 | 21 | |
| A 100 | 584.91 | 585.52 | 49 | 00 | |
| A 100 | 585.52 | 586.13 | 28 | 00 | |
| A 100 | 586.13 | 586.44 | 31 | 13 | |
| A 100 | 586.44 | 587.35 | 91 | 38 | |
| A 100 | 587.35 | 588.87 | 137 | 132 | |
| A 100 | 588.87 | 590.40 | 133 | 121 | |

| A UMM | | | | RQD | SP.GR. |
|---|---|---|---|---|---|
| A TYP | | | | CM | SG |
| A MTH | | | | B-B | WEIGH |
| A LAB | | | | FLD | FLD |
| A 100 | 590.40 | 593.14 | 239 | 164 | |
| A 100 | 593.14 | 596.19 | 297 | 263 | |
| A 100 | 596.19 | 599.24 | 303 | 218 | |
| A 100 | 599.24 | 602.28 | 303 | 176 | |
| A 100 | 602.28 | 604.42 | 214 | 150 | |
| A 100 | 604.42 | 606.86 | 224 | 96 | |
| A 100 | 606.86 | 609.90 | 302 | 184 | |
| A 100 | 609.90 | 613.26 | 298 | 243 | |
| A 100 | 613.26 | 614.78 | 136 | 68 | |
| A 100 | 614.78 | 615.39 | 61 | 15 | |
| A 100 | 615.39 | 616.31 | 92 | 59 | |
| A 100 | 616.31 | 617.52 | 87 | 39 | |
| A 100 | 617.52 | 619.05 | 132 | 67 | |
| A 100 | 619.05 | 620.57 | 126 | 57 | |
| A 100 | 620.57 | 622.10 | 148 | 57 | |
| A 100 | 622.10 | 623.62 | 136 | 81 | |
| A 100 | 623.62 | 625.14 | 102 | 14 | |
| A 100 | 625.14 | 626.67 | 153 | 133 | |
| A 100 | 626.67 | 627.89 | 96 | 15 | |
| A 100 | 627.89 | 628.80 | 60 | 00 | |
| A 100 | 628.80 | 630.33 | 147 | 51 | |
| A 100 | 630.33 | 631.85 | 151 | 37 | |
| A 100 | 631.85 | 633.37 | 149 | 136 | |
| A 100 | 633.37 | 634.90 | 153 | 36 | |
| A 100 | 634.90 | 636.12 | 97 | 34 | |
| A 100 | 636.12 | 637.95 | 167 | 78 | |
| A 100 | 637.95 | 639.47 | 152 | 109 | |
| A 100 | 639.47 | 640.84 | 116 | 62 | |
| A 100 | 640.84 | 642.44 | 147 | 119 | |
| A 100 | 642.44 | 644.35 | 153 | 115 | |
| A 100 | 644.35 | 645.87 | 141 | 69 | |
| A 100 | 645.87 | 647.40 | 145 | 70 | |
| A 100 | 647.40 | 648.92 | 143 | 41 | |
| A 100 | 648.92 | 650.44 | 144 | 81 | |
| A 100 | 650.44 | 651.97 | 150 | 134 | |
| A 100 | 651.97 | 653.49 | 152 | 108 | |
| A 100 | 653.49 | 655.02 | 153 | 78 | |
| A 100 | 655.02 | 656.54 | 152 | 78 | |
| A 100 | 656.54 | 658.06 | 130 | 00 | |
| A 100 | 658.06 | 659.59 | 143 | 56 | |
| A 100 | 659.59 | 660.81 | 112 | 24 | |
| A 100 | 660.81 | 662.33 | 152 | 124 | |
| A 100 | 662.33 | 663.85 | 152 | 120 | |
| A 100 | 663.85 | 665.38 | 148 | 78 | |
| A 100 | 665.38 | 666.90 | 142 | 29 | |
| A 100 | 666.90 | 667.51 | 43 | 00 | |
| A 100 | 667.51 | 668.43 | 74 | 00 | |
| A 100 | 668.43 | 669.95 | 144 | 80 | |
| A 100 | 669.95 | 671.47 | 129 | 97 | |
| A 100 | 671.47 | 672.69 | 122 | 101 | |
| A 100 | 672.69 | 674.22 | 125 | 97 | |

| | | | | | |
|---|---|---|---|---|---|
| A UMM | | | | RQD | SP.GR. |
| A TYP | | | | CM | SG |
| A MTH | | | | B-B | WEIGH |
| A LAB | | | | FLD | FLD |
| A 100 | 674.22 | 675.74 | 152 | 116 | |
| A 100 | 675.74 | 677.27 | 142 | 62 | |
| A 100 | 677.27 | 678.79 | 142 | 74 | |
| A 100 | 678.79 | 680.31 | 152 | 129 | |
| A 100 | 680.31 | 680.62 | 24 | 24 | |
| A 100 | 680.62 | 682.14 | 152 | 148 | |
| A 100 | 682.14 | 683.67 | 152 | 123 | |
| A 100 | 683.67 | 685.19 | 148 | 118 | |
| A 100 | 685.19 | 686.41 | 122 | 97 | |
| A 100 | 686.41 | 687.93 | 146 | 111 | |
| A 100 | 687.93 | 689.46 | 146 | 135 | |
| A 100 | 689.46 | 690.98 | 149 | 119 | |
| A 100 | 690.98 | 691.59 | 61 | 36 | |
| A 100 | 691.59 | 693.12 | 153 | 81 | |
| A 100 | 693.12 | 694.64 | 152 | 120 | |
| A 100 | 694.64 | 696.16 | 145 | 99 | |
| A 100 | 696.16 | 697.69 | 150 | 101 | |
| A 100 | 697.69 | 699.21 | 151 | 71 | |
| A 100 | 699.21 | 700.74 | 141 | 31 | |
| A 100 | 700.74 | 702.26 | 144 | 95 | |
| A 100 | 702.26 | 703.78 | 148 | 65 | |
| A 100 | 703.78 | 705.31 | 153 | 113 | |
| A 100 | 705.31 | 706.98 | 143 | 96 | |
| A 100 | 706.98 | 708.66 | 145 | 107 | |
| A 100 | 708.66 | 710.18 | 122 | 70 | |
| A 100 | 710.18 | 711.71 | 153 | 118 | |
| A 100 | 711.71 | 713.23 | 146 | 142 | |
| A 100 | 713.23 | 714.76 | 151 | 109 | |
| A 100 | 714.76 | 716.28 | 142 | 108 | |
| A 100 | 716.28 | 718.41 | 213 | 193 | |
| A 100 | 718.41 | 721.46 | 305 | 242 | |
| A 100 | 721.46 | 724.51 | 286 | 162 | |
| A 100 | 724.51 | 727.56 | 303 | 149 | |
| A 100 | 727.56 | 730.61 | 305 | 166 | |
| A 100 | 730.61 | 733.65 | 301 | 213 | |
| A 100 | 733.65 | 736.70 | 294 | 223 | |
| A 100 | 736.70 | 739.75 | 300 | 256 | |
| A 100 | 739.75 | 741.58 | 175 | 126 | |
| A 100 | 741.58 | 743.10 | 146 | 91 | |
| A 100 | 743.10 | 744.93 | 172 | 40 | |
| A 100 | 744.93 | 745.24 | 30 | 00 | |
| A 100 | 745.24 | 747.37 | 188 | 114 | |
| A 100 | 747.37 | 748.89 | 132 | 00 | |
| A 100 | 748.89 | 751.94 | 289 | 141 | |
| A 100 | 751.94 | 754.99 | 294 | 265 | |
| A 100 | 754.99 | 758.04 | 297 | 244 | |
| A 100 | 758.04 | 761.09 | 286 | 137 | |
| A 100 | 761.09 | 764.13 | 304 | 247 | |
| A 100 | 764.13 | 767.18 | 300 | 279 | |
| A 100 | 767.18 | 770.23 | 281 | 260 | |
| A 100 | 770.23 | 773.28 | 305 | 269 | |

| | | | | | |
|---|---|---|---|---|---|
| A | UMM | | | RQD | SP.GR. |
| A | TYP | | | CM | SG |
| A | MTH | | | B-B | WEIGH |
| A | LAB | | | FLD | FLD |
| A | 100 | 773.28 | 776.33 | 305 | 238 |
| A | 100 | 776.33 | 779.37 | 304 | 269 |
| A | 100 | 779.37 | 782.42 | 280 | 159 |
| A | 100 | 782.42 | 785.47 | 305 | 249 |
| A | 100 | 785.47 | 788.52 | 305 | 227 |
| A | 100 | 788.52 | 791.57 | 296 | 280 |
| A | 100 | 791.57 | 794.61 | 304 | 279 |
| A | 100 | 794.61 | 797.66 | 301 | 255 |
| A | 100 | 797.66 | 800.40 | 272 | 198 |
| A | 100 | 800.40 | 803.45 | 305 | 251 |
| A | 100 | 803.45 | 806.50 | 292 | 184 |
| A | 100 | 806.50 | 809.55 | 283 | 143 |
| A | 100 | 809.55 | 812.60 | 288 | 167 |
| A | 100 | 812.60 | 815.95 | 313 | 186 |
| A | 100 | 815.95 | 819.00 | 305 | 251 |
| A | 100 | 819.00 | 821.44 | 207 | 78 |
| A | 100 | 821.44 | 824.48 | 304 | 95 |
| A | 100 | 824.48 | 827.53 | 305 | 202 |
| A | 100 | 827.53 | 828.45 | 92 | 84 |
| A | 100 | 828.45 | 831.19 | 239 | 157 |
| A | 100 | 831.19 | 834.24 | 299 | 216 |
| A | 100 | 834.24 | 836.98 | 267 | 229 |
| A | 100 | 836.98 | 838.20 | 122 | 111 |
| A | 100 | 838.20 | 840.33 | 203 | 101 |
| A | 100 | 840.33 | 843.38 | 305 | 270 |
| A | 100 | 843.38 | 846.43 | 301 | 193 |
| A | 100 | 846.43 | 849.48 | 295 | 195 |
| A | 100 | 849.48 | 852.53 | 285 | 201 |
| A | 100 | 852.53 | 853.74 | 121 | 69 |
| A | 100 | 853.74 | 855.57 | 160 | 118 |
| A | 100 | 855.57 | 858.62 | 305 | 233 |
| A | 100 | 858.62 | 861.71 | 302 | 157 |
| A | 100 | 861.71 | 862.93 | 120 | 83 |

R SUM TARGET: SOUTH ZONE. APPROX 615M BENCH LEVEL, 64M WEST OF DDH 56B

R SUM . IMPRESSIONS ON MINERALIZED ZONES.

R SUM (1) BANDED SL GENERALLY TENDS TO BE YW AND LIGHT BROWN. A LATE

R SUM PHASE OF SL OCCURS IN LATE VEINS WITH QTZ AND CALCITE AND IS

R SUM M-DK BN IN COLOR. THIS LATE SL(REMOBILIZED IS MINOR).

R SUM (2) GALENA OCCURS IN 3 PRINCIPLE MODES

R SUM A. LAMINAE

R SUM B. LATE VEINS WITH QTZ AND CALCITE-MINOR.

R SUM C. BRECCIA FILLING ASSOCIATED WITH BRECCIATED CHT BANDS.

R SUM -THIS MAY SUGGEST THAT GL IS REMOBILIZED.

R SUM (3) PYR OCCURS AS LAMINAE (CLUSTERS OF XLS PARALLEL TO BANDING)

R SUM AND AS DISSEM GRAINS THROUGHOUT MINERALIZED ZONES.

R SUM (4) STYLOLITES OCCUR OCCASIONALLY, PARTICULARLY IN CHT BANDS. PY

R SUM , GL, AND SL COMMONLY OCCUR ALONG STYLOLITES( REMOBILIZED).

R SUM (5) AN UNIDENTIFIED GREY MINERAL OCCURS TOWARDS THE BASE OF THE

R SUM SECOND ORE ZONE. MINERAL IS STEEL GY, PRISMATIC XLS, WITH

R SUM VESTICAL STRIATIONS, HARDNESS APPROX 4, STREAK GY. OCCURS WITH

R SUM PYRITE AS FILLING IN BRECCIATED CHT ZONE, AND ALSO IN LATE VEINS

R SUM WITH QTZ AND CALCITE. XLS MAY FORM RADIATING AGGREGATES.

R SUM POSSIBLY STIBNITE. LESSER POSSIBILITY IS RUBY SILVER.

R SUM (6) CHT BANDS UNDERGO BRITTLE DEFORMATION ARE OCCASIONALLY

R SUM BRECCIATED. TENSION FRACTURES ARE COMMON AND ARE GENERALLY

R SUM FILLED WITH QTZ VEINS WITH MNR CALCITE. FRACTURES ARE GENERALLY

R SUM PERPENDICULAR TO BDG.

# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81AWH070 | COLLAR ELEVATION: | 1296.71 | AZIMUTH( DEG ) : | 171.20 | GEOLOGGED BY : | PCH + JWP |
| TOTAL DEPTH/LENGTH : | 910.44 | NORTHING(- IF S): | 7002575.00 | VERTICAL ANGLE : | -80.10 | DATE (YY/MM/DD): | 810827 |
| CORE/HOLE DIAMETER : | NQ | EASTING (- IF W): | 436528.81 | CO-ORD SYSTEM : | UTM | PROJECT NUMBER : | J-S3 |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 30.00 | 165.90 | -80.53 |
| 2 | 61.00 | 168.40 | -80.30 |
| 3 | 91.00 | 172.90 | -79.73 |
| 4 | 122.00 | 168.50 | -78.50 |
| 5 | 152.00 | 166.30 | -77.10 |
| 6 | 183.00 | 165.90 | -75.65 |
| 7 | 213.00 | 160.60 | -75.50 |
| 8 | 244.00 | 158.80 | -74.77 |
| 9 | 274.00 | 156.00 | -74.02 |
| 10 | 305.00 | 152.20 | -73.43 |
| 11 | 335.00 | 150.50 | -72.18 |
| 12 | 366.00 | 149.30 | -70.37 |
| 13 | 396.00 | 149.20 | -68.42 |
| 14 | 427.00 | 150.30 | -67.95 |
| 15 | 440.44 | 148.80 | -67.75 |
| 16 | 455.98 | 147.00 | -66.50 |
| 17 | 460.25 | 149.00 | -66.50 |
| 18 | 482.50 | 151.00 | -65.50 |
| 19 | 491.34 | 148.00 | -64.75 |
| 20 | 501.70 | 149.00 | -64.25 |
| 21 | 517.25 | 148.00 | -64.50 |
| 22 | 531.88 | 148.50 | -63.50 |
| 23 | 549.86 | 145.00 | -63.75 |
| 24 | 561.44 | 144.00 | -63.50 |
| 25 | 579.12 | 145.00 | -63.50 |
| 26 | 591.31 | 142.00 | -63.50 |
| 27 | 620.88 | 152.00 | -59.50 |
| 28 | 639.17 | 155.00 | -55.75 |
| 29 | 643.43 | 157.00 | -54.50 |
| 30 | 666.29 | 157.50 | -52.25 |
| 31 | 693.42 | 152.00 | -50.50 |
| 32 | 710.79 | 148.00 | -50.00 |

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                    33          732.43          152.00          -47.00
                    34          748.59          152.00          -45.25
                    35          760.48          150.00          -44.00
                    36          793.09          142.00          -39.00
                    37          798.88          146.00          -39.00
                    38          804.67          146.00          -38.50
                    39          819.91          146.00          -38.00
                    40          835.15          146.00          -37.00
                    41          850.39          143.50          -36.00
                    42          865.63          145.00          -36.00
                    43          880.87          148.00          -35.00
                    44          896.11          143.00          -35.00

   F   - I N T E R V A L -    CORE  T- %      TYPI- QAL  TEX-  GRAIN       PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                     H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T (  .  )  D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3      3  4 O     /          2    AZM  RT H  H  H  H  H  H  H  H  H  H   1   1
Y  G                          DESIG      VIR   COL             R     C            STRUCTUR-2  A  A  A  A  A  A  A  A  A  A     2   2

R SVY     0.00     0.00      DATA FROM GYROSCOPIC DIRECTIONAL SURVEY
R SVY     0.00     0.00      THIS DATA IS CORRECT AND WILL BE USED FOR PLOTTING THE SECTION
R SVY   440.44   910.44      ONLY SPERRY SUN SINGLE-SHOT.  DATA IS AVAILABLE FOR BRANCH HOLE
R SVY   440.44   910.44      70A AND THIS WILL BE USED TO COMPLETE THE SURVEY FILE.
R SVY   440.44   440.44      BEGINNING OF WEDGED HOLE A.
R SVY   440.44   440.44      HALL AND ROWE STEEL WEDGE, FULL AZM LEFT.
R SVY   910.44   910.44      END OF WEDGED HOLE A.

/         0.00   440.44 440.44          MISS                                P

/       440.44   445.70   5.26          SAND       CH2 G;    J L 1 M        P
L                                          5A              7     C

/       440.44   442.40   1.96        X SAND       CH2 G;    J L 1 M        R                V=
L                                          5A              7     C                                    V)

/       445.70   453.26   7.56          BRHT                          NS8   P
L                                                          2 =   C MN1

/       453.26   457.39   4.13          BRHM                           S9   P
L                                          3A                    C JL=

/       457.39   459.33   1.94          ARSI       SI1 LM                   P  1
L                                          3A

/       459.33   460.18   0.85          ARSN       SN4 //    F I 2 J        P
L                                          5A                    C

/ CON   460.18   461.58   1.40          BRHT       SN=                NP8   P    CN      66
L                                                          2   = C KN1

/       461.58   472.84  11.26          BRHM CR              2       OTX   P
L                                          2A                    C JM)                        C*                V*
R       461.58   472.84      SL VEINLET (REDDISH BROWN COLOUR) WITH SILICIFIED ENVELOPE
R       461.58   472.84      AT 466.8 M.

/       463.60   465.12   1.52        X WEDG                                R
L
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L                                                                H*   1   C LM)                                                                R*
                                                                PAN OCEAN OIL LTD.
G E O L O G                                          JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.                                                  PAGE -  3
                                                DRILLHOLE/TRAVERSE --- 81AWH070 --- (CONTINUED)

K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       477.30  483.95   6.65              BRHT                          OR8   P
L                                                                    C

/       483.95  503.50  19.55              BRHT        *S=               OR8   P
L                                                                = = C LO1

/       503.50  521.30  17.80              BRHM CR         SS            NR9   P
L                                                                      IL=                                C)
R       503.50  521.30      BADLY BROKEN INTERVAL FROM 504.14 TO 519.38 M.

/ SHR   516.04  517.86   1.82            X BRHM                              R
L

/       521.30  527.10   5.80              BRHT CR     H*=               NQ8   P
L                                                                      MO1                                                H*    R*
R       521.30  527.10      COARSE FRAGS CONSIT OF MASS CARBONAC ARGL (SAME AS PGI ABOVE).

/       527.10  545.10  18.00              BRHT            M; FU         OS6   P
L                                                                5     C MO4
R       527.10  545.10      GRADED FLOW SEQUENCE WITH LARGE ARSI INTRACLASTS.

/       545.10  554.54   9.44              BRHT        *S1               NQ4   P
L                                                                1     LN2

/       554.54  563.15   8.61              BRHT        *C2               NQ3   P
L                                                                    C LN5                                  #)
R       554.54  563.15      10% WISPY ARGL CLASTS WITH SIG MUD CONTENT (20%) IN MATRIX.
R       554.54  563.15      OCCASIONAL SIDERITIZED BLACK ARGL CLASTS 1%.

/       563.15  564.79   1.64              ARSI SC                           P
L
R EDT   564.79  564.79      CHANGED INTERVAL TO MATCH P.
R       564.79  564.79

/       564.79  566.32   1.53              WEDG                              P
L

/       566.32  567.52   1.20              CGPM                  G K 2 N     P
L                                                                5     O
R       566.32  567.52      INCREASING MUD CONTENT IN DOWNHOLE DIRECTION.  GRAD'L CONTACT
R       566.32  567.52      AT BASE.

/       567.52  584.10  16.58              BRPM        *S+ B*            OQ3   P
L                                                       *C3           + O LO7
R       567.52  584.10      DISTINCTIVE CONGLOMERATIC MATRIX CONTAINING WELL ROUNDED ARGL
R       567.52  584.10      CLASTS (10%) - POSSIBLY CORRELATIVE WITH SIMILAR INTERVALS
R       567.52  584.10      IN DDH 70 (562.70 M) AND DDH 68 (567.54 M).

/       584.10  629.72  45.62              ARSI        SI1 LM                P
L                                                3A                                                                C*
```

| KEY | F -L- G | FROM ----.-- | TO ----.-- | INT ---.-- | RECOV ---.-- R Q D | MD % AGE | ROCK FV | TM RU | TM LC | TM TM | QM1 QM2 | TX TX | TX TX | F S | C C | % O | M O | ARG CHT | RT | 1 2 | ID ID | AZM AZM | DIP DIP | QZ MG | FL MU | CY CL | CA SD | BA QS | XX HA | PY PR | CP MT | GL SL | YY HA | A 1 | A 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| / | | 595.00 | 611.50 | 16.50 | | | X | ARSN | | | SI3 | LR | SC | | | | | | R | 2 | LM | | U52 | | | | | | | | | | | | | |
| L | | | | | | | | | | | SN+ | | | | | | | | | 4 | BD | | | | | | | | | | | | | | | |
| / | | 604.72 | 605.94 | 1.22 | | | X | WEDG | | | | | | | | | | | R | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 620.40 | 628.92 | 8.52 | | | X | BRHM | | | | | | | | | | NQX | R | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | | | KK( | | | | | | | | | | | | | | | | | | |
| / | | 628.92 | 629.72 | 0.80 | | | X | SAND | | | | // | | F | H | 8 | H | | R | | BD | | 40 | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | 9 | | | C | | | | | | | | | | | | | | | | | | | |
| / | | 629.72 | 661.70 | 31.98 | | | | ARSI | | | SI2 | LM | | | | | | | P | 2 | BD | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 639.17 | 639.17 | 0.00 | | | X | ARSI | | | SI2 | LM | | | | | | | R | 2 | BD | | 40 | | | | | | | | | | | | | |
| / | | 644.35 | 644.35 | 0.00 | | | X | ARSI | | | SI2 | LM | | | | | | | R | 2 | BD | | 45 | | | | | | | | | | | | | |
| / | | 646.18 | 647.70 | 1.52 | | | X | WEDG | | | | | | | | | | | R | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 654.10 | 654.10 | 0.00 | | | X | ARSI | | | SI2 | LM | | | | | | | R | 2 | BD | | 47 | | | | | | | | | | | | | |
| / | | 656.95 | 661.70 | 4.75 | | | X | BRHM | | | *B+ | | | | | | | OT9 | R | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | | + | JN+ | | | | | | | | | | | | | | | | | | |
| / | | 661.70 | 663.15 | 1.45 | | | | CGPS | | | *C2 | B* | F* | H | L | 3 | N | | P | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | R* | 3 | | | 0 | | | | | | | | | | | | | | | | | | | |
| / | | 663.15 | 664.85 | 1.70 | | | | MISS | | | | | | | | | | | P | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | EDT | 663.15 | 664.85 | | MISSING INTERVAL. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 664.85 | 667.70 | 2.85 | | | | CGPS | | | | B* | F* | H | L | 3 | 0 | | P | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | R* | 3 | | | 0 | | | | | | | | | | | | | | | | | | | |
| R | | 664.85 | 667.70 | | BOTH CGPS UNITS APPEAR TO REPRESENT SEPARATE DEPOSITIONAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 664.85 | 667.70 | | GRAVITY FLOW EVENTS OF SIMILAR CHARACTER - MAY HAVE INCORPORATED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 664.85 | 667.70 | | ANGULAR ARGL CLASTS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 667.70 | 671.64 | 3.94 | | | | BRHM | | | *S2 | | | | | | | PS9 | P | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | 5A | | | | | | | | 2 | KM+ | | | | | | | | | | | | | | | | | | |
| / | | 671.64 | 672.96 | 1.32 | | | | BRHT | | | | | | | | | | OP6 | P | | | | | | | | | | | | | | | | B- | |
| L | | | | | | | | | | | | | | | | | | LN2 | | | | | | | | | | | | | | | | | | |
| / | | 672.96 | 674.89 | 1.93 | | | | CGXX | | | | | | D | M | 4 | N | | P | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | 7A | | | | | 4 | | | C | | | | | | | | | | | | | | | | | | | |
| R | | 672.96 | 674.89 | | CHARACTERIZED BY BLACK WELL ROUNDED MED SIZE PEBBLES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 672.96 | 674.89 | | (DEPOSITIONAL CONTACTS). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RN LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      673.30  674.83   1.53          X WEDG                                R
L

/      674.89  677.35   2.46            CGPS GR              H L 3 P        P
L                                                           3     O                                  **
R      674.89  677.35      MINOR AMOUNT OF BLACK ROUNDED CLASTS AT 675.30 M.

/      677.35  682.22   4.87            ARSI           LM    A F 1 F        P  1 LM      37                  L.
L                                          5A

/      682.22  684.27   2.05            CGXX           FU B* I M 6 N        P                                D-    J.
L                                          7A                2     C                                  D*
R      682.22  684.27      WELL ROUNDED CARBONACEOUS CLASTS PRESENT DEPOSITIONAL ARGL
R      682.22  684.27      CONCENTRATED AT THE BOTTOM.

/      684.27  685.30   1.03            ARGL           LM    A G = J        P    LM      38                  Q(
L                                          3A                                                                      R-

/      685.30  690.13   4.83            BRHT       *S1                LP6   P                                D(    #*
L                                                                   LN3                                        #( #.
R      685.30  690.13      IN INTERVAL 688.73-688.89 M THE GL AND SL ARE FOUND CONCENTRATED
R      685.30  690.13      IN THE MATRIX BUT ARE ALSO FOUND IN FRAGMENTS IN LESSER AMOUNTS.
R      685.30  690.13      IT IS FOUND PREDOMINANTLY IN THIS AREA AND COULD BE THE RESULT
R      685.30  690.13      OF SLUMPING PRIOR TO LITHIFICATION.
R      685.30  690.13      IN INTERVAL 689.45-689.80 M  LM ARGL DIP 45 DEGREES; FINE SAND
R      685.30  690.13      LAMINATIONS SHOW THE DIP.

/      690.13  696.30   6.17            ARGL           LM SS A G = G        P                <(                <(
L                                          3A
R      690.13  696.30      LAMS ARE FINE SAND.

/      690.39  690.39   0.00          X ARGL           LM SS A G = G        R    LM      65 <(                <(

/      692.34  692.34   0.00          X ARGL           LM SS A G = G        R    LM      80 <(                <(

/      695.60  695.60   0.00          X ARGL           LM SS A G = G        R    LM      20 <(                <(

/      696.30  703.04   6.74            BRHT       *S1    H*          OS6   P                                D*    #(
L                                                       F*      2 1   MN1                                          D.

/      703.04  708.29   5.25            BRHT       *S1                OP6   P                                D.    #(
L                                                                1   LN2                                          D.
R      705.31  705.31      GL OCCURS AS BRECCIA F*LL.

/      708.29  712.02   3.73            CGBR           G; B* G N 6 P        P
L                                          5A         H*    3     C
R      708.29  712.02      WELL ROUNDED CARBONACEOUS CLASTS. ARGL INCREASING AND
R      708.29  712.02      INTERSTITIAL DOWN HOLE.  CH CLASTS MORE PREVALENT DOWN HOLE.

/      712.02  724.12  12.10            ARSN           LM BD A H 2 H        P    LM      35                  D-
L                                          4A
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C Q O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       724.12  728.36   4.24              BRHT       *S1 SS            OP4   P                                D-     R.
L                                                                 1 =   MN2                                    R-

/       728.36  733.20   4.84              BRHM       SN=               LM1   P                                B.        GR
L                                                    *S1               LM+                                            D.

/       733.20  744.48  11.28              BRHM       *S+               NP4   P              <.                8.
L                                                                      LO1

/       733.65  735.17   1.52            X WEDG                        R
L

/       744.25  744.48   0.23            X CGCP           H*    J L 4 N      R                                R*     R-
L

/       744.48  748.79   4.31              ARSN           SS    A H 3 O      P              <.                8.
L

/       748.79  760.02  11.23              BRHM       *S2               RS6   P              V-                R*
L                                                                 2   MO1                                    P)     R.

/       760.02  765.95   5.93              BRHT       *S1               OP7   P                                D-     *)
L                                                    SI1            2   MN1                                    R+     *)
R       760.02  765.95       GL AND SL CONCENTRATED AT 762.30-762.45 M UP TO 20% PR, 10% GL,
R       760.02  765.95       10% SL.

/       763.52  765.05   1.53            X WEDG                        R
L

/       765.95  767.88   1.93              BRHT       SN4 BS //         KO2   P    LM      50
L                                                        FU            KN4                                    R*     D)
R       765.95  767.88       CHAOTIC BRECCIA AT BOTTOM, FINING AND SORTING UP.  POSSIBLE
R       765.95  767.88       BOUMAAB SEQUENCE.

/       767.88  768.51   0.63              BRHM       SN+ SS            QR9   P              <.                D.     R*
L                                                 2A                   NO=                                    R-     R.
R       767.88  768.51       SAND MAINLY IN LAST 25 CM.

/       768.51  780.62  12.11              BRHM       SI4               QR5   P                                D.
L                                                                      NQ2                                    R.
R       768.51  780.62       GL 60% FROM 770.47-770.58 M.
R       768.51  780.62       CGCP FROM 775.66-775.78 M AND 778.53-778.83 M.

/       780.62  795.42  14.80              ARSN       SN2 BD LM A F 4 N   P    BD      35 C.                    D)
L                                                 4A   SI2 SS (L              2                                B-
R       788.60  788.84       CGCP OCCURS.
R       788.84  795.42       THIS AREA HAS SOFT SEDIMANT SLUMPING PRESENT AND BECOMES
R       788.84  795.42       SILICIFIED IN THE LOWER 2 M.

/       793.80  795.22   1.42            X MISS                        R
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

K US1  795.42  795.42   0.00

/      795.42  797.80   2.38            FGSX SX PY        ST          NO2   P                <*       <( P=     D+     Q=
L                                                                    MP3                                                Q1
R      795.42  797.80      A SLIGHT BN IS PRESENT BUT IS FRAGMENTED.  SL IS COMMON.

/      797.80  807.83  10.03            BNSX BA SL CH= BN LM                P  2 BD     T70 <*       <( L5     D+     L+
L                                                GL     ST          NO=         BD     B55          <(                L1
R      797.80  807.83      WELL BN-LM UNIT, BECOMES SILICIFIED TOWARDS THE BASE.

/      804.16  804.98   0.82          X LOST                                R
L

/      807.83  808.77   0.94            CHER PY SF     MX                   P  0 LM      60              L)     D+
L                                                        LM
R      807.83  808.77      MASSIVE CHER PRESENT SLIGHT LM AT THE BOTTOM WHERE BA IS PRESENT

/      808.77  813.41   4.64            BNSX BA SL CH4 BN LM                P  3 BD     T50          <( X3     D+     L+
L                                                GL                  NP4         BD                  <*                L1
R      808.77  813.41      BEDDING WELL DEVELOPED, THE DIP IS CONSIST AT THE TOP BUT
R      808.77  813.41      SHALLOWS AT THE BOTTOM.  THIS IS BA RICH WITH ASSOCIATED SL-GL.
R      808.77  813.41      THIS UNIT BECOMES SILICIFIED TOWARDS THE BASE WITH THE INCREASE
R      808.77  813.41      OF CHERT.

/      811.37  811.68   0.31          X MISS                                R
L

/      813.41  813.82   0.41            MSSX CH    CH8 MX                   P                          <-       <)     <*
L
R      813.41  813.82      THIS IS TOTALLY SILICIFIED AND MASSIVE MICROVEINS OF PY ARE
R      813.41  813.82      PRESENT WITH SOME GL ALSO.

/      813.82  815.54   1.72            FGSX CH BA CH7 R*                   P                          <( P1     R)     C(
L                                                CB S*+              LN7                                  D*               P*
R      813.82  815.54      THIS UNIT IS SILICIFIED CHERT RICH.  PARTLY IS PRESENT WITH
R      813.82  815.54      PY-SL-GL IN < AND R*.  NO BEDDING IS SEEN DUE TO    BEING
R      813.82  815.54      FRAGMENTED.

/      815.54  819.31   3.77            LMSX BA    CH5 BN LM                P  1 BD     T15 D=       8* X3     6)     8+
L                                                     ST          MP5         BD     B55          P(                8+
R      815.54  819.31      THIS UNIT IS WELL BEDDED AND IS RICH IN SL-GL.  TOWARDS THE
R      815.54  819.31      BASE IT IS LESS SILICIFIED.

/      816.40  816.58   0.18          X MISS                                R
L

/      817.42  817.78   0.36          X LOST                                R
L

/      818.01  818.31   0.30          X LOST                                R
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RG LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

K LS1  819.31  819.31   0.00

/      819.31  825.60   6.29            ARSI GR CR SIF BD LM A F = F       P  1 BD  35     <(          B-    8( D(
L                                          3A PY SN1 (L BS                  1 LM  47
R      819.31  825.60      THE ARSI IS TOTALLY SILICIFIED. SI AND SN BEDS ARE SEEN
R      819.31  825.60      WITH PY DISS IN THEM.  THESE COULD BE POSSIBLE BOUMA SEQ DE'S.
R      819.31  825.60      THE BEDDING IS CONVOLUTED IN SOME SEQUENCES.
R      819.31  825.60      A PYRITIC SAND BED; 30% PY IS PRESENT WITH 10%GL.

/      825.60  837.72  12.12            BRHT       SN2 BS FU         LM4   P  2 BD      45 <-       <-       R(    D.
L                                                   R*        2   KL1
R      825.60  837.72      CHAOTIC BRECCIA'S ARE SEEN FINING AND BECOMING SORTED UPWARDS.
R      825.60  837.72      THIS ARE BOUMA SEQUENCES AB TYPE.  BEST EXAMPLE OF ABE SEQUENCE
R      825.60  837.72      IS FROM 825.86 TO 826.69 M. THIS UNIT HAS A GREATER DEGREE
R      825.60  837.72      OF SILIFICATION TOWARDS T-E BOTTOM.

/      837.72  849.00  11.28            ARSI SF CR SI2       A E 2 F       P  1 BD     T40 <-       <-       6*
L                                          4A    SN=                        2 BD     B45
R      837.72  849.00      THE PY CONCENTRATES IN THE COARSER BEDS.  TWO AGES OF QZ-CP
R      837.72  849.00      VEINING WAS FOUND.  THE PY WAS ALSO FOUND PRESENT IN THE FIRST
R      837.72  849.00      WHICH WAS CROSS-CUT BY BARREN QZ-CB VEINS.

K US2  849.00  849.00   0.00

/      849.00  849.83   0.83            MSSX GL SL CH1 BN LM               P  1 BD      52                   D=    M7
L                                              PY                                                                  L1
R      849.00  849.83      THE GL AND SL ARE LM OR BN WITH A GREATER % OF GL PRESENT.

/      849.83  851.74   1.91            LMSX BA GL CH2 LM LC               P  1 BD      50          <( L6    61    L=
L

/      851.74  852.03   0.29            FGSX BA GL CH7                     P                        8( L1    D1    D=
L                                              SL                  LN7                                             L+
R      851.74  852.03      THE FRAGMENTS ARE LM BUT ROTATED.  THIS IS WHERE THE SL IS
R      851.74  852.03      FOUND.  GL IS DISS THROUGHOUT.  THIS AREA IS HIGHLY SILICIFIED.

/      852.03  853.30   1.27            BNSX SF BA CH8 BN LM               P  2 BD     T31          8( L=    L=    D+
L                                              PY                                BD     B68                          D+
R      852.03  853.30      WELL LAMINATED TO BANDED. THE PY IS MOST VISABLE BUT SL-GL ARE
R      852.03  853.30      PRESENT.  THIS HAS BEEN TOTALLY SILICIFIED.

/      853.30  853.77   0.47            FGSX SF BA CH8                     P                        8* Q=    8=    D=
L                                              PY                  MO8                                             D+
R      853.30  853.77      CLASTS ARE LM BUT ARE NOW ROTATED.  SILIFICATION IS PERVASIVE.

/      853.77  854.90   1.13            BDSX SF CA CH5 BN LM               P  2 BD     T18             L4    L=    D=
L                                              PY     LC                              B40                          D+
R      853.77  854.90      WELL BANDED AND LESS SILICEOUS.  BANDING IS SLIGHTLY CONVOLUTED.

/      854.90  857.54   2.64            FGSX BA PY CH6 SS                  P                        8( P2    8=    D1
L                                          QS                  MP6                                             D=
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```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       854.90  857.54      THE BEDDING PRESENT HAS BEEN DISTURBED BY SS.  THIS IT IS
R       854.90  857.54      FRAGMENTED.  THIS IS BARITIC AND THE BARITE IS SEEN IN LM.
R       854.90  857.54      GL-SL-PY ARE DISSEMINATED THROUGHOUT CONC ALONG LM PRESENT.

/       855.78  856.31   0.53           X FGSX BA PY CH6 SS                  R  2 BD      58          8( P2    8=    D1
L
R       855.78  856.31      THIS AREA THE BD HAS NOT BEEN DESTROYED BY SS.

/       857.54  858.57   1.03             BNSX SF GL CH7 LM BN               P  2 BD     T47          8) L=    D+    D1
L                                                   SS                         2 BD     B65                          L-

/       858.57  859.27   0.70             FGSX SF GL CH5 SS                  P                        8* L2    D=    D1
L                                                SL                  LOS                                B(          L1
R       858.57  859.27      THIS WAS WELL BEDDED BUT SS HAS FRAGMENTED IT.

/       859.27  860.36   1.09             LMSX SF BA CH7 LM BN               P  1 BD      70 <(       8( L1    D=    D=
L                                                PY     LC

/       860.36  861.00   0.64             BNSX SF SX CH7 BN                  P  2 BD      48             L=    D)    L1
L                                                                                                                    L=

/       861.00  870.81   9.81             BNSX SF SX CH6 BN LM               P  1 BD     T38 <-       D- L2    D=    L1
L                                                PY     SS LC                  2 BD     B64                          L=
R       861.00  870.81      LESS SILIFICATION AT THE BOTTOM OF THIS UNIT.  IT IS WELL
R       861.00  870.81      BEDDED WITH SOME CONVOLUTED BEDS.  THE GL IS PRESENT THROUGHOUT
R       861.00  870.81      BUT IS FOUND CONC IN PATCHES.

/       870.81  875.62   4.81             LMSX SF SX CH4 LM LC               P  1 BD     T35          8( L2    D=    L1
L                                                PY        SS                  1 BD     B65                          L2
R       870.81  875.62      THIS IS WELL LM SL AND GL.  THE GL IS A PALE ORANGISH COLOUR.

/       875.62  877.52   1.90             LMSX SX SF CH4 LM LC               P  1 BD     T15             L1    D1    #2
L                                                PY     SS                      BD     B40                          L2
R       875.62  877.52      HERE THE ORIGINAL BD IS SHOWN BY THE BA-SL LM BUT A SECONDARY
R       875.62  877.52      SLUMPING EVEN HAS CREATED AREAS WHERE GL HAS ENTERED AS A
R       875.62  877.52      DEPOSITIONAL EVENT.

/       877.52  889.84  12.32             LMSX SX SF CH3 LM LC               P  2 BD     T40          D) L3    D1    L1
L                                                PY        SS                          B70                          L2
R       877.52  889.84      THIS SECTION IS WELL LM.  IT IS LESS SF AND THE BA-SL SHOW UP
R       877.52  889.84      AS WHITE AND PALE ORANGISH LM.

/       889.84  890.73   0.89             BNSX SX SF CH5 LM                  P  2 BD      72          8* L1    D+    L2
L                                                      LC SS                                                         L1

/       890.73  893.06   2.33             BNSX SF SX CH7 LM LC               P  3 BD      70 <(       8* L1    D+    L=
L                                                                                                                    L1

/       893.06  894.09   1.03             LMSX SF SX CH6 LM                  P  2 BD      57          8( L1    D=    X2
L                                                                                                                    L1

/       894.09  897.28   3.19             LMSX SF SX CH5 LM LC               P  2 BD      56             L2          L1
L                                                                                                                    L2
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

K LS2  897.28  897.28   0.00

/      897.28  901.33   4.05            LMSX SF SX     LM LC              P  1 BD      65          D) L1     D+     L1
L                                               CB                                                                  L1

/      897.28  901.33   4.05          6 SILT SF CR     LM LC              R  1 BD      65          D*     GR D+
L                                               CB                                                          C(
R      897.28  901.33      THIS IS DIRECTLY BELOW THE ORE ZONE.  SOME SILT BEDS RANGE UP
R      897.28  901.33      TO SEVERAL CM THICK.  GRAPHITE OCCURS ALONG FRACTURES, AND LT
R      897.28  901.33      IS ALL CARBONATED.

/      901.33  910.44   9.11            SILT SF PY SN= LM //              P  1 BD      58          <-        D+
L                                                                                                C-     <(
R      901.33  910.44      THERE ARE A FEW INTERBEDDED SANDY LAYERS RICH IN PYRITE.

R SUM

R SUM                      TARGET

R SUM                      THE TARGET OF DDH 81-70A WAS THE 600 M BENCH LEVEL OF THE SOUTH

R SUM                      ZONE. PURPOSE OF THIS HOLE WAS TO HAVE A 50 M STEP-OUT

R SUM                      FROM HOLE 70, AND TO PROVE UP MORE ORE.

R SUM

R SUM                      RESULTS

R SUM                      MINERALIZATION WAS INTERSECTED BUT BELOW THE TARGET POINT.

R SUM                      HOLE 70A ACTUALLY INTERSECTED THE ORE ZONE AT THE 580 M LEVEL.

R SUM                      THE HOLE WAS REDUCED TO BQ SIZE AT 754.08 M, BUT DID NOT FLATTEN

R SUM                      TWO ORE ZONES WERE INTERSECTED, S-1 FROM 795.49-819.31 M

R SUM                      AND S-2 FROM 849.00-897.28 M.  THE TRUE THICKNESS OF S-1 IS

R SUM                      19.51 M, USING AN AVERAGE CORE ANGLE OF 55 DEGREES TO CALCULATE

R SUM                      THE TRUE THICKNESS.  TRUE THICKNESS OF S-2 IS 36.98 M, USING

R SUM                      A CORE ANGLE OF 50 DEGREES TO CALCULATE THE TRUE THICKNESS.

R SUM

R SUM                      THE AVERAGE GRADES ARE:

R SUM
```

R SUM SOUTH ZONE 1 BA 32.85%
R SUM PB 3.49%
R SUM ZN 7.55%
R SUM
R SUM SOUTH ZONE 2 BA 21.86%
R SUM PB 10.89%
R SUM ZN 12.22%
R SUM
R SUM CORE REVOVERY WAS EXELLENT THROUGHOUT BOTH ORE ZONES.
R SUM IT WAS APPROXIMATELY 98% IN BOTH ZONES.
R SUM
R SUM
R SUM SPECIAL REMARKS
R SUM
R SUM DRILLING
R SUM THIS HOLE, 70A WAS WEDGED OFF OF HOLE 70 AT 440.44 M.
R SUM A TOTAL OF10 WEDGES WERE UTILIZED IN THE DRILLING AND COMPLETION
R SUM OF THIS HOLE. AT 754.08M THE HOLE WAS REDUCED FROM NQ TO BQ
R SUM SIZE TO REDUCE TORQUE ON THE DRILL RODS.
R SUM
R SUM MINERALIZATION
R SUM MINERALIZATION WAS MAINLY BARITIZATION A LARGE DEGREE OF
R SUM SILIFICATION. SOME MINOR FOLDS WERE SEEN, BUT MAINLY THE BEDS
R SUM AND LAMINATIONS WERE CONVOLUTED. IN S-1 THE BEDDING DIP VARIED
R SUM GREATLY BUT IN S-2 THE BEDDING DIPS WERE MORE CONSISTANT.
R SUM

R SUM CONCLUSIONS

R SUM THIS HOLE WAS SUCCESSFUL IN HITTING THE ORE ZONE AND PROVING UP

R SUM THE ORE.

G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

| | | | |
|---|---|---|---|
| DRILLHOLE/TRAVERSE :81AWH078 | COLLAR ELEVATION: 1296.37 | AZIMUTH( DEG ) : 355.00 | GEOLOGGED BY : JDK + JWP |
| TOTAL DEPTH/LENGTH : 181.79 | NORTHING(- IF S): 7002568.00 | VERTICAL ANGLE : -83.00 | DATE (YY/MM/DD): 810922 |
| CORE/HOLE DIAMETER : NQ | EASTING (- IF W): 436555.31 | CO-ORD SYSTEM : UTM | PROJECT NUMBER : J-MAIN |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 27.43 | 0.00 | -81.50 |
| 2 | 88.39 | 5.00 | -81.25 |
| 3 | 118.26 | 6.00 | -81.25 |
| 4 | 134.42 | 10.50 | -80.30 |
| 5 | 143.26 | 13.00 | -79.00 |
| 6 | 158.50 | 14.00 | -79.00 |
| 7 | 173.43 | 14.00 | -78.50 |
| 8 | 180.14 | 14.00 | -78.50 |

R HED HOLE ABANDONED DUE TO WEDGE PROBLEMS AT 182.27M.

```
   F   - I N T E R V A L -    CORE  T- %      TYPI- QAL  TEX-  GRAIN       PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                     H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T (  . )  D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3      3  4 O     /          2    AZM  RT H  H  H  H  H  H  H  H  H  H   1   1
Y  G                          DESIG      VIR   COL            R     C            STRUCTUR-2  A  A  A  A  A  A  A  A  A  A    2   2

R SVY  134.42  134.42      BEGINNING OF WEDGED HOLE A.
R SVY  134.42  134.42      HALL AND ROWE STEEL WEDGE, FLATTENING.
R SVY  182.27  182.27      CLAP RETRIEVABLE WEDGE LOST IN HOLE.
R SVY  181.79  181.79      END OF WEDGED HOLE A.

/        0.00  131.76 131.76            MISS                                P

/      131.76  132.61   0.85            BRHM PY GR *S1 F* R*          NQ7   P                                  8+
L                                           1A              2 1   O KM2

/      132.61  137.77   5.16            SAND PY GR     SS FU 4 5 4 5        P  2 BD     U72                    8=
L                                           4A              5     C

/      132.61  137.77   5.16          2 BRHT PY        F* R*          NP5   R  3 BD                            8+
L                                           3A              2     C MN5

/      133.29  133.59   0.30          X BRHT PY        F* R*          NP5   R                                  8+
L                                           3A              2     C MN5

/      135.46  135.94   0.48          X SAND PY GR     SS FU 2 3 2 3        R  2 BD     U70                    8.
L                                           2A
R      135.46  135.94      CORE IS BADLY BROKEN.
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```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RO LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       137.77  157.51  19.74            BRHM PY GR     F*             QS9   P                6.       <.       6*
L                                           1A CB           2 1   C                                   6.

/ FLT   148.43  149.75   1.32          X FAUL QZ CB                          R                66       6)       6)
L                                           8A SD                                                     6*

/       157.51  159.11   1.60            BRHT PY        B* F*          QP4   P                                  8+
L                                           5A        R* H* 2 2   C QP5

/       159.11  162.54   3.43            ARSI PY GR SI2 SS // 2 4 4 4       P  3 BD     U70                   6+
L                                           1A SD SN1       3 3                                       6.

/       159.11  159.85   0.74          X BRHM PY GR     B* F*          PQ6   R                <)       <)       6+
L                                           2A SD     R*    2   1   OO3                                 6.

/       162.54  170.03   7.49            BRHM PY GR SN1                PR8   P                                  6)
L                                           1A    SI1           2 C                             C.

/       168.55  169.77   1.22          X LOST                                R
L

/       170.03  174.35   4.32            BRHT PY GR     B* R*          PQ6   P                          <)       6)
L                                           3A CB     F*    2 1   C OP3                             C.
R       170.03  174.35      CORE IS BADLY BROKEN

/       174.35  178.74   4.39            BRHM PY        B* R*          PR8   P                                  8*
L                                           1A              2   =   MN=
R       174.35  178.74      CORE IS BADLY BROKEN.

/       178.74  179.90   1.16            ARSN PY GR SN3 // SS 2 3 5 3       P  2 BD      75                   8)
L                                           4A    SI1       6
R       178.74  179.90      POSSIBLE FRAGMENT.

/       179.90  181.79   1.89            BRHM PY GR SN4                QR5   P                                  8)
L                                           2A              2   5
```

# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81AWH085 | COLLAR ELEVATION: | 1244.36 | AZIMUTH( DEG ) : | 0.00 | GEOLOGGED BY : | JWP + |
| TOTAL DEPTH/LENGTH : | 620.27 | NORTHING(- IF S): | 7002370.00 | VERTICAL ANGLE : | -90.00 | DATE (YY/MM/DD): | 811101 |
| CORE/HOLE DIAMETER : | HQNQ | EASTING (- IF W): | 436553.06 | CO-ORD SYSTEM : | UTM | PROJECT NUMBER : | J-S1 |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 12.00 | 49.80 | -87.80 |
| 2 | 24.00 | 49.90 | -87.58 |
| 3 | 37.00 | 67.80 | -86.50 |
| 4 | 49.00 | 79.60 | -86.92 |
| 5 | 61.00 | 92.50 | -86.67 |
| 6 | 73.00 | 111.40 | -86.50 |
| 7 | 85.00 | 103.30 | -87.00 |
| 8 | 98.00 | 97.20 | -86.17 |
| 9 | 110.00 | 99.10 | -86.03 |
| 10 | 122.00 | 119.10 | -86.25 |
| 11 | 134.00 | 118.00 | -86.17 |
| 12 | 146.00 | 119.00 | -85.75 |
| 13 | 159.00 | 113.00 | -86.67 |
| 14 | 171.00 | 114.00 | -86.83 |
| 15 | 183.00 | 108.00 | -87.47 |
| 16 | 195.00 | 135.00 | -85.50 |
| 17 | 207.00 | 146.00 | -85.10 |
| 18 | 219.00 | 143.10 | -84.92 |
| 19 | 232.00 | 155.10 | -84.53 |
| 20 | 244.00 | 156.10 | -84.25 |
| 21 | 256.00 | 166.30 | -84.17 |
| 22 | 268.00 | 164.40 | -84.05 |
| 23 | 280.00 | 159.50 | -82.00 |
| 24 | 293.00 | 160.50 | -81.08 |
| 25 | 305.00 | 164.50 | -80.08 |
| 26 | 317.00 | 171.50 | -79.42 |
| 27 | 329.00 | 171.50 | -78.58 |
| 28 | 341.00 | 168.70 | -79.00 |
| 29 | 354.00 | 170.70 | -79.33 |
| 30 | 366.00 | 171.00 | -79.08 |
| 31 | 378.00 | 170.10 | -79.00 |
| 32 | 390.00 | 168.10 | -78.75 |

| | | | |
|---|---|---|---|
| 33 | 402.00 | 164.20 | -78.07 |
| 34 | 415.00 | 168.20 | -77.78 |
| 35 | 427.00 | 162.30 | -77.00 |
| 36 | 439.00 | 158.40 | -76.03 |
| 37 | 451.00 | 157.50 | -75.83 |
| 38 | 463.00 | 156.50 | -75.33 |
| 39 | 475.00 | 154.60 | -75.05 |
| 40 | 488.00 | 154.60 | -74.75 |
| 41 | 500.00 | 152.60 | -74.50 |
| 42 | 512.00 | 151.70 | -73.42 |
| 43 | 524.00 | 149.80 | -71.50 |
| 44 | 536.00 | 149.80 | -70.47 |
| 45 | 549.00 | 147.00 | -69.83 |
| 46 | 561.00 | 146.20 | -68.58 |
| 47 | 573.00 | 147.10 | -68.38 |
| 48 | 585.00 | 147.20 | -68.17 |
| 49 | 597.00 | 148.20 | -68.63 |
| 50 | 610.00 | 145.50 | -68.47 |
| 51 | 616.00 | 145.50 | -68.43 |

| KEY | FLAG | - INTERVAL - (UNITS = (MT=METRIC FT=FOOTRIC) FROM - TO - | . DEC.PLACE) INT ( . ) | CORE RECOVERY | T- % M O D | M I X | ROCK TYPE | TYPIFYING 1 | GAL MIN TM 2 | MAT QM1 | TEXTURES TX 1 | TX 2 | GRAIN CHARACS F F | C F | C % | M A | ARG | PGI /RI | T 1 | ID | STRUCTUR-1 STK AZM | DIP RT | ALTERATION MINS H QZ | H FL | H CY | H CA | H BA | ANY XX | ORE-TYPE MINS H PY | H CP | H GL | ANY YY | SUMMARY ALT A | ORE 1 | ALT A | ORE 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KEY | FLAG | | | ROCK QUAL DESIG | FM AGE | EN- VIR | RT Q | LC- COL | TM 3 | QM2 | TX 3 | TX 4 | S O R | C | O | O / C | CHT | | T 2 | ID | STRUCTUR-2 STK AZM | DIP RT | MG H A | MU H A | CL H A | SD H A | QS H A | HA H A | PR H A | MT H A | SL H A | HA H A | | 1 2 | | 1 2 |

| | | | |
|---|---|---|---|
| R SVY | 0.00 | 0.00 | DATA FROM GYROSCOPIC DIRECTIONAL SURVEY. |
| R SVY | 0.00 | 0.00 | THIS DATA IS ASSUMED TO BE MORE ACCURATE AND SHOULD BE USED. |
| R SVY | 282.55 | 282.55 | THIS IS THE POINT WHERE THE BRANCH WEDGE FOR DDH 81-85A IS. |
| R 201 | 27.74 | 45.72 | 40.00-87.50 7298.50 |
| R 202 | 45.72 | 52.12 | 74.00-85.33 9772.67 |
| R 203 | 52.12 | 64.31 | 79.00-85.25 11636.75 |
| R SVY | 52.43 | 52.42 | HALL AND ROWE STEEL WEDGE FULL STEEPENING. |
| R 204 | 64.31 | 71.02 | 89.00-86.50 13535.50 |
| R 205 | 71.02 | 85.34 | 94.00-85.75 15644.25 |
| R SVY | 71.63 | 71.63 | HALL AND ROWE STEEL WEDGE FULL STEEPENING. |
| R 206 | 85.34 | 106.98 | 108.00-85.50 19254.50 |
| R SVY | 87.78 | 87.78 | HALL AND ROWE STEEL WEDGE FULL STEEPENING. |
| R 207 | 106.98 | 134.11 | 104.00-85.80 24127.20 |
| R SVY | 121.31 | 121.31 | HALL AND ROWE STEEL WEDGE HALF AZM RIGHT, HALF STEEPENING. |
| R 208 | 134.11 | 137.16 | 118.00-86.00 27159.00 |
| R 209 | 137.16 | 148.44 | 118.00-86.25 28591.75 |
| R SVY | 137.16 | 137.16 | REDUCE FROM HQ TO NQ. |
| R SVY | 140.51 | 140.51 | CLAPPISON RETRIEVABLE WEDGE HALF AZM RIGHT, HALF STEEPENING. |
| R 210 | 148.44 | 169.47 | 123.00-85.50 31828.50 |
| R SVY | 156.36 | 156.36 | CLAPPISON RETRIEVABLE WEDGE FULL STEEPENING. |
| R 211 | 169.47 | 185.01 | 137.00-86.25 35498.75 |
| R SVY | 174.65 | 174.65 | CLAPPISON RETRIEVABLE WEDGE FULL STEEPENING. |
| R 212 | 185.01 | 192.63 | 102.00-87.25 37778.75 |
| R 213 | 192.63 | 202.69 | 114.50-87.25 39559.25 |
| R SVY | 192.94 | 192.94 | CLAPPISON RETRIEVABLE WEDGE FULL AZM RIGHT. |
| R 214 | 202.69 | 210.31 | 138.00-85.33 41352.67 |
| R SVY | 207.87 | 207.87 | HALL AND ROWE STEEL WEDGE FULL AZM RIGHT. |
| R 215 | 210.31 | 219.76 | 125.00-85.50 43046.50 |
| R 216 | 219.76 | 225.86 | 146.00-84.75 44623.25 |
| R 217 | 225.86 | 234.70 | 141.00-85.00 46112.00 |
| R 218 | 234.70 | 245.36 | 147.00-85.00 48068.00 |
| R SVY | 235.61 | 235.61 | CLAPPISON RETRIEVABLE WEDGE FULL AZM RIGHT. |

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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R 219  245.36  252.07                 161.00-84.50    49988.50
R 220  252.07  264.57                 157.00-84.50    51736.50
R SVY  253.90  253.90        CLAPPISON RETRIEVABLE WEDGE FULL AZM RIGHT.
R 221  264.57  274.62                 170.00-84.50    54004.50
R 222  274.62  282.55                 177.00-84.00    55597.00
R SVY  282.55  282.55        BRANCH WEDGE A.
R SVY  282.55  282.55        HALL AND ROWE STEEL WEDGE, FULL FLATTENING.  THIS IS THE BRANCH
R 223  282.55  297.48                 174.50-83.50    57706.50
R 224  297.48  315.77                 169.80-81.50    61243.50
R SVY  301.14  301.14        CLAPPISON RETRIEVABLE WEDGE, HALF AZM RIGHT, HALF FLATTENING.
R 225  315.77  337.41                 164.00-80.00    65402.00
R SVY  320.04  320.04        CLAPPISON RETRIEVABLE WEDGE, FULL AZM RIGHT.
R 226  337.41  346.56                 175.00-78.75    68493.25
R 227  346.56  364.85                 171.00-78.25    71233.75
R SVY  351.43  351.43        CLAPPISON RETRIEVABLE WEDGE, FULL AZM RIGHT.
R 228  364.85  367.59                 170.00-79.25    73334.75
R 229  367.59  374.29                 173.00-79.33    74291.67
R 230  374.29  388.92                 171.00-79.00    76413.00
R 231  388.92  397.46                 172.00-79.00    78731.00
R 232  397.46  407.21                 171.00-78.75    80559.25
R SVY  401.12  401.12        THE STANDARD CORE BARREL WAS PUT ON TO TRY AND FLATTEN THE HOLE
R 233  401.12  401.12
R 234  416.05  434.00      4         164.00-78.00    85095.00
R SVY  418.80  418.80        CLAPPISON RETRIEVABLE WEDGE, HALF AZM RIGHT, HALF FLATTENING.
R SVY  418.80  418.80        THE STRAIGHT HOLE EQUIPMENT WAS PUT BACK ON SINCE AZM WAS LOST
R SVY  418.80  418.80        WITH THE STANDARD BARREL ON.
R 235  434.04  446.84                 165.00-77.50    88175.50
R 236  446.84  463.60                 162.00-76.25    91129.75
R 237  463.60  474.57                 156.00-76.00    93897.00
R 238  474.57  488.90                 155.00-75.25    96426.75
R 239  488.90  492.86                 153.00-75.25    98253.75
R 240  492.86  502.16                 153.00-75.00    99580.00
R 241  502.16  510.84                 153.00-74.66   101378.34
R 242  510.84  518.46                 151.00-74.66   103006.34
R 243  518.46  529.13                 151.50-74.00   104984.50
R 244  529.13  537.06                 151.50-73.25   106697.25
R 245  537.06  584.30                 151.50-71.75   112215.75
R 246  584.30  620.27                 142.50-68.25   120531.25

/        0.00  285.29 285.29          MISS                          P
L

/      285.29  294.07   8.78          BRHT       *S+ R*             NQ8   P                                R*
L                                          4A              2   +   LO=                        C-
R      285.29  294.07       STARTED CORING PAST THE BRANCH WEDGE OFF OF DDH 81-85.
R      285.29  294.07       IT WAS A HALL AND ROWE STEEL WEDGE, FULL FLATTENING.

/      294.07  295.88   1.81          BRPM            F* R*         MQ1   P                                D(
L                                          7A              2         KN5                        C-

/      295.88  313.26  17.38          BRHT GR    *B) R* F*           LT8   P    V/      85 >(        D.    D)    D.
L                                          5A    *S+ SS     2 ) +   JO1        CV      90        C-
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       295.88  313.26      A LOT OF VARYING CLASTS ARE PRESENT PRESENT IN THIS CHAOTIC
R       295.88  313.26      BRECCIA.

/       301.14  302.67   1.53          X WEDG                                R
L
R       301.14  302.67      CLAPPISCON WEDGE, HALF AZM RIGHT, HALF FLATTENING.

/       309.30  310.19   0.89          9 VEIN QZ                             R    V/      85              Q*    D(    Q-
L                                          W

/       313.26  315.73   2.47            ARSN GR    SN1 //    A I 3 J        P  2 BD      65                    B*
L                                          3A    SI2       7                    CV      90       C-    <-
R       313.26  316.90      APPEARS TO BE DEPOSITIONAL SEQUENCE WITH DEPOSITIONAL
R       313.26  316.90      CONTACTS BETWEEN THE UNITS.

/       315.73  315.77   0.04            ARGL                 A A   A        P
L                                          2A

/       315.77  316.90   1.13            CGBR           F* B* J M 4 O LO2    P                <(       <-       Q.
L                                          7A              4       KN3

/       316.90  318.29   1.39            BRXX GR    *S) IM R*         KO2    P  2 BD      52                    R*
L                                          5A        (L //   ) )   KN1
R       316.90  318.29      THIS BRXX IS A DEBRIS FLOW.  BEDDING CAN BE SEEN, THE CLASTS
R       316.90  318.29      OF SAND AND CONG ARE IN VARIOUS BEDS.  THE TRANSPORTING MEDIUM
R       316.90  318.29      WAS PROBABLY MUD FLOW.

/       318.29  319.35   1.06            CGBR GR        F* B* K M 4 O KN3    P                <-          <-    B.
L                                          6A              4       KO4                         C-

/       319.35  321.56   2.21            BRHT GR    *S) R* F*         LP6    P                                  Q(
L                                          4A        SS      1 )   KO2                         C-

/       320.04  321.56   1.52          X WEDG                                R
L
R       320.04  321.56      CLAPPISON WEDGE, FULL AZM RIGHT.

/       321.56  376.42  54.86            ARSI GR    SI= (F // A F = G        P  1 BD      68 <(                 B*
L                                          3A    GG+                                         C-    <(          R.
R       321.56  376.42      THIS IS IN A DISTAL ENVIROMENT, WHERE IT WAS RELATIVELY QUIET
R       321.56  376.42      TO GET NICKLY FORMED BEDS.

/       341.99  346.10   4.11          X ARSI GR    SI= (F // A F = G        R  1 BD      90 <(                 B*
L

/       346.10  347.47   1.37          X ARSI GR    SI= (F // A F = G        R  1 BD      68 <(                 B*
L                                                GGX

/       350.96  351.43   0.47          X BRPM GR        IM            JN4    R    BD      70                    Q*
L                                          3A

/       351.43  352.96   1.53          X WEDG                                R
L
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```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       351.43  352.96      CLAPPISON WEDGE, FULL AZM RIGHT.

/       358.75  359.25   0.50          1 VEIN QZ                          R    V/      55            D(    Q*    B(
L                                          W                                                                    B.

/       369.06  369.31   0.25          X BRHM CR    *S= SS        =   LM4  R                    C-          D.
L                                          3A                                                        <(

/       376.42  391.45  15.03            BRHT       GG7 R*            JO7  P                          C-    Q-
L                                          3A                      JN1                        C(

/ FAL   376.42  384.96   8.54          X BRHT       GGX R*            JO7  R                          C-    Q-
L                                          3A                      JN1                        C(
R       376.42  391.45      THIS BRECCIA IS THE START OF A LARGE DEBRIS FLOW PACKAGE.

/       391.45  395.00   3.55            ARSI GR    SI2 //                 P  1 BD      60                  Q)
L                                                   SN)                       CV      90       C-    <(
R       391.45  395.00      THE ARGL IS BRITTLE AND BREAKS FASILY ALONG CLEAVAGE PLANES.

/       395.00  457.64  62.64            BRHT GR    *B3 R* F*         MU4  P                          Q(    Q)
L                                          5A        H* B* 2 = 3   LO2                        C-    <*
R       395.00  457.64      THIS BRHT IS MADE UP OF LARGE CLASTS OF CGXX, ARGL, ARSI, BRPM,
R       395.00  457.64      WHICH ARE SLUMPED DOWN TO FORM A LARGE DEBRIS FLOW PACKAGE.

/ FRG   396.10  397.45   1.35          X BRPM GR        F* B*         MO2  R                              B)    B.
L                                          6A        H* R* 4       KO3                            <)
R       396.10  397.45      THE MATRIX IS SANDY.
R       401.11  401.11      THE STANDARD CORE BARREL WAS PUT ON TO TRY AND FLATTEN THE HOLE.

/ FRG   408.18  408.64   0.46          X CGBR SF        R*    I L 4 M KM3  R                              Q*
L                                          5A              6       JL2
R HLT   408.18  408.64      WELL ROUNDED CARBONACEOUS CLASTS ARE PRESENT.

/ FRG   410.11  412.70   2.59          X BRPM SF        R* F*         KP2  R                              Q*
L                                          6A        H*    4       JO4

/ FRG   417.88  418.75   0.87          X ARSN       SN5       A J 6 K      R                          C-    B)
L                                          4A    SI1       7                                  C-

/       418.80  420.32   1.52          X WEDG           //                 R  2 BD      75
L
R       418.80  420.32      CLAPPISON WEDGE, HALF AZM RIGHT, HALF FLATTENING.
R       418.80  420.32      STRAIGHT HOLE EQUIPMENT WAS PUT BACK ON.

/ FRG   429.03  429.39   0.36          X SAND SF              E I 5 J      R                              D(
L                                          7A              7                                        <-

/ FRG   430.33  433.20   2.87          X ARSI       SN+ //    A H = H      R  3 BD      80                  B*
L
R HLT   430.33  433.20      THE PY OCCURS AS BLEBS ALONG THE BEDS.  THE CLEAVAGE CAN BE SEEN
R       430.33  433.20      CROSS CUTTING THE BEDDING.
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       457.64  482.32  24.68              BRHT GR    GG1 R* F*          MQ3   P                          C.    Q)
L                                             6A    *R+          1     KP4                      C-    <(    <(
R       457.64  482.32      THIS BRHT HAS MORE MUD AND SLATE IN THE MATRIX.  THE CHERT
R       457.64  482.32      FRAGMENTS SEEN ARE SUB-ROUNDED TO ANGULAR AND IN SOME PLACES
R       457.64  482.32      THEY APPEAR IMBRICATED.

/       482.32  501.68  19.36              BRPM SF    *S) F*             KT2   P                          B(    Q.
L                                             7A                ( )   JP5                      C-
R       482.32  501.68      THE TOP OT THIS UNIT  THE BRPM HAS A SANDY MATRIX AND IS CLOSED
R       482.32  501.68      GOING TOWARDS THE BASE MORE ARGL CLASTS ARE SEEN AND THE BRPM
R       482.32  501.68      OPEN.

/ FRG   501.06  501.36   0.30            X CGBR SF        F* H* I M 4 N KN2   R                          B*    *(
L                                             7A              4     C JN3

/       501.68  505.90   4.22              CGCP SF    *S( FU H* I M 6 N JN2   P                <.        Q(    D+
L                                             7A    *C2 R* F* 7   ( O HN4                      C- C-
R HLT   501.68  505.90      HERE ARE TWO IMMATURE BOUMA SEQUENCES, AN AB-TYPE.  THEY ARE
R       501.68  505.90      SEPARATED BY A PERIOD OF QUIESCENCE.  THE GALENA IS FOUND
R       501.68  505.90      THROUGHOUT AS REPLACEMENT CLASTS AND AS CLASTS IN THE MATRIX.
R HLT   501.68  505.90      ROUNDED CARBONACEOUS CLASTS ARE PRESENT ALSO.  THIS IS CONC.
R       501.68  505.90      AT THE TOP OF FU SEQUENCE.

/       505.90  514.20   8.30              BRHT GR    *S= F* H*          FR4   P                          R)    *(
L                                             4A    *C+ R* IM     +    HN2                      C-    <)          *-
R       505.90  514.20      THIS BRECCIA HAS MORE MUD AND SAND IN THE MATRIX.
R       505.90  514.20      AT THE BASE OF IT CLASTS OF GALENA AND SL ARE FOUND.

/ FRG   512.34  514.20   1.86            X BRPM SF    *C= H* F*          KO1   R                          R(
L                                             6A        R*      )   O IO4                      C-    <-

/       514.20  540.26  26.06              BRHM GR SF *S* SS             MT9   P                          C(    Q*
L                                             3A CB        R*     *    KM)                             <-
R       514.20  540.26      THIS BECOMES MORE SILICIFIED TOWARDS THE BASE.

/ FRG   514.80  516.10   1.30            X ARSI SF    SI= //    A D = E       R  2 BD      68            C-    D(
L                                             3A              7                                  C-    <-

/ FRG   516.35  518.37   2.02            X ARSI SF    SI= //    A D = E       R  2 BD      78            C-    D(
L                                             3A              7                                  C-    <-

/ FRG   518.37  519.99   1.62            X ARSI SF    SI= //    A D = E       R  2 BD      70            C-    D(
L                                             3A              7                                  C-    <-

/ FRG   520.25  520.55   0.30            X ARSI SF    SI= //    A D = E       R  2 BD      85            C-    D(
L                                             3A              7                                  C-    <-

/ FRG   528.69  529.94   1.25            X ARSI SF    SI= //    A D = E       R  2 BD      80            C-    D(
L                                             3A              7                                  C-    <-

/ FRG   529.94  530.80   0.86            X ARSI SF CB SI= //    A D = E       R  2 BD      30            C-    D(
L                                             3A                                                 C-    <-
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       540.26  543.03   2.77            BRHT SF     *C= F* R*          LO1   P                                  D+
L                                                   H*       6      JN3

/ FRG   542.04  542.42   0.38          X CGXX SF     *C+ B* R* I L 4 N JN2   R                                  D)
L                                            6A                4     O KL2
R HLT   542.04  542.42      ROUNDED CARBONACEOUS CLASTS ARE PRESENT.

/       543.03  550.48   7.45            BRHM SF CB *S) SS R*          LS9   P                                  Q)     D.
L                                            4A         H*        )   KM+                        C.
R       543.03  550.48      THIS UNIT IS SF AND BECOMES CB TOWARDS THE BASE.

/       550.48  555.17   4.69            BRPM SF     *C1 F* H*          LO1   P                                  R)
L                                            6A         B* R* 2     O KN3
R       550.48  555.17      THE MATRIX IS VERY SANDY.  THE CLASTS GIVE THE APPEARANCE
R       550.48  555.17      OF BEING IBRICATED.

/       555.17  575.13  19.96            BRHT SF CB *S+ R*             LP7   P                <-           C-     Q+     R-
L                                            3A     *B)           +   LL)                        C.     Q+     R-
R       555.17  575.13      THIS IS NOT THE USUAL BRHT.  IT IS DISTINCT BECAUSE THE MATRIX
R       555.17  575.13      IS SILTY AND IT IS CARBONACEOUS.  THERE ARE CLASTS WITH GL
R       555.17  575.13      AND SL IN THE CENTRE, SURROUNDED BY PY.

/       575.13  599.16  24.03            BRHM SF     SI+               MT9   P                <-           C-     Q)     *.
L                                            7A                   +                              C.     <-            *.
R       575.13  599.16      THIS BECOMES SILICIFIED TOWARDS THE BASE.
R       575.13  599.16      A FIBROUS MINERAL  IS FOUND ALONG SOME FRACTURES.  IT IS THOUGH
R       575.13  599.16      TO BE CHRYSOTILE.
R       575.13  599.16      THE BEDDING IN THE ARGL AND ARSI CLASTS VARY FROM 90 TO 50
R       575.13  599.16      DEGREES.

/ FSX   599.16  601.83   2.67            FGSX SL GL S*4                MN4   P                                  #3     #1
L                                            6A SF                                                                      #2
R       599.16  601.83      THIS REPRESENTS A LARGE BRECCIA FRAGMENT WHICH HAS BEEN
R       599.16  601.83      MINERALIZED AND HAS SLUMPED DOWN INTO THE BRECCIA PACKAGE.
R       599.16  601.83      THERE ARE CLASTS OF LMSX PRESENT ALONG WITH THE SX D THROUGHOUT.

/       601.83  602.95   1.12            BRHM SF     SI) SS            NP8   P                <*                 Q*
L                                            6A                   )   JM)

/       602.95  604.99   2.04            BRPM SF     *C+ R* H*         KM1   P                <)                        **
L                                            6A         F* B*         JN2                                                R)
R       602.95  604.99      TOWARDS THE BOTTOM IT BECOMES CHERT RICH AND SILTIER.

/       604.99  612.34   7.35            BRHM SF         SS            LP9   P                <)                 R)     *-
L                                            6A                       JL)                            <                R(
R       604.99  612.34      AT 609.9 M CORE WAS LOST.  THE RODS DROPPED 2.44 M WITH
R       604.99  612.34      NO RESISTANCE.

/       612.34  620.27   7.93            MSSX GL SL      MX VG              P                                  Q2     X5
L MSX                                        6A PY                                                                      X3
```

| K E Y | F -L- G | F R O M - | T O - | I N T | RECOV RQD | MD % AGE | ROCK EV | TM RQ | TM LC | TM TM | QM1 QM2 | TX TX | TX TX | F S | C C | % O | M O | ARG CHT | RI 2 | 1 ID | AZM | DIP | QZ MG | FL MU | CY CL | CA SD | BA QS | XX HA | PY PR | CP MT | GL SL | YY HA | A 1 | A 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | US1 | 612.34 | 612.34 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | EDT | 612.34 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 612.34 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 612.34 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 612.34 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 612.34 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 612.34 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | END | 620.27 | 620.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# G E O L O G E D I T L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6802

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81BWH068 | COLLAR ELEVATION: | 1275.94 | AZIMUTH( DEG ) : | 0.00 | GEOLOGGED BY : | DWB + |
| TOTAL DEPTH/LENGTH : | 806.81 | NORTHING(- IF S): | 7002472.00 | VERTICAL ANGLE : | -90.00 | DATE (YY/MM/DD): | 810000 |
| CORE/HOLE DIAMETER : | HQNQ | EASTING (- IF W): | 436496.25 | CO-ORD SYSTEM : | UTM | PROJECT NUMBER : | J-S2 |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 30.00 | 146.90 | -89.47 |
| 2 | 61.00 | 169.10 | -87.40 |
| 3 | 91.00 | 151.30 | -85.47 |
| 4 | 122.00 | 131.50 | -86.75 |
| 5 | 152.00 | 124.20 | -86.42 |
| 6 | 183.00 | 121.80 | -86.10 |
| 7 | 213.00 | 117.80 | -86.00 |
| 8 | 244.00 | 117.20 | -85.38 |
| 9 | 274.00 | 120.10 | -84.13 |
| 10 | 305.00 | 132.80 | -84.92 |
| 11 | 335.00 | 151.50 | -84.20 |
| 12 | 366.00 | 164.00 | -80.53 |
| 13 | 396.00 | 164.50 | -77.00 |
| 14 | 427.00 | 157.50 | -74.20 |
| 15 | 457.00 | 154.20 | -69.00 |
| 16 | 488.00 | 154.30 | -64.80 |
| 17 | 518.00 | 154.80 | -58.13 |
| 18 | 549.00 | 158.60 | -49.80 |
| 19 | 579.00 | 162.80 | -46.00 |
| 20 | 610.00 | 166.30 | -43.00 |
| 21 | 640.00 | 165.90 | -49.50 |
| 22 | 671.00 | 166.60 | -39.00 |
| 23 | 681.84 | 165.80 | -38.25 |
| 24 | 685.80 | 165.50 | -37.00 |
| 25 | 697.99 | 166.00 | -37.00 |
| 26 | 710.18 | 166.00 | -36.50 |
| 27 | 722.37 | 166.00 | -36.25 |
| 28 | 734.57 | 166.00 | -36.00 |
| 29 | 746.76 | 166.50 | -35.00 |
| 30 | 758.95 | 166.50 | -35.00 |
| 31 | 771.84 | 166.50 | -35.00 |
| 32 | 783.34 | 166.50 | -35.00 |

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                                33                 795.53          166.50          -34.50

   F   - I N T E R V A L -   CORE  T- %      TYPI- QAL  TEX-  GRAIN        PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                     H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG   /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T ( . )   D X TYPE  1  2 OM1  1  2 F F C A           1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT     TM OM2 TX TX S C O O CHT       T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- O LC- 3       3  4 O     /            2    AZM  RT H  H  H  H  H  H  H  H  H  H    1   1
Y  G                          DESIG      VIR   COL            R     C              STRUCTUR-2 A  A  A  A  A  A  A  A  A  A     2   2

R SVY     0.00  681.84        DATA FOR UPPER PART OF HOLE OBTAINED FROM GYROCOMPASS SURVEY OF
R SVY     0.00  681.84        DDH 81-68A.  REMAINDER OF HOLE FROM SPERRY SUN MULTI-SHOT.
R SVY     0.00  681.84        THE GYROCOMPASS DATA IS CONSIDERED MORE ACCURATE, AND SHOULD BE
R SVY     0.00  681.84        USED FOR PLOTTING PURPOSES. NO SPERRY SUN READINGS EXIST FOR
R SVY     0.00  681.84        DDH 81-68B ABOVE ITS BRANCH POINT: 681.84 M.  SPERRY SUN DATA
R SVY     0.00  681.84        FOR PILOT HOLE CAN BE FOUND IN LOG FOR DDH 81-68.
R SVY   681.84  681.84        BEGINNING OF WEDGED HOLE B.
R SVY   681.84  681.84        HALL AND ROWE STEEL WEDGE - FULL FLATTENING.
R SVY   681.84  806.81        REMAINDER OF SURVEYS FROM SPERRY SUN.
R SVY   685.80  783.34       THESE AZIMUTH VALUES REPRESENT 10 DEGREES ADDED TO THE ORIGINAL
R SVY   685.80  783.34       MULTI-SHOT DATA TO COMPENSATE FOR MAGNETIC INTERFERENCE.
R SVY   685.80  783.34       TO OBTAIN ORIGINAL SURVEY DATA SUBTRACT 10 DEGREES FROM THE
R SVY   685.80  783.34       AZIMUTH.

/         0.00  680.01 680.01            MISS                                P

/       680.01  681.85   1.84            BRHM SF        ST             PS9   P                V=                  #)     R-
L                                              5A             3        JO)                                                R-
R       680.01  681.85       HIGHLY SILICIIED.  MINOR DK BN SL QTZ UN AT 680.65M.  SL, GL AND
R       680.01  681.85       PY ALL OCCUR AS REPLACEMENTS WITHIN CHERT FRAGMENTS AND TO A
R       680.01  681.85       LESSER EXTENT DISSEM IN BRECCIA MTX.

/       681.85  683.88   2.03            ARSI SF        LM ST               P  2 BD     T45 V+                 L*
L                                              5A                                        B45
R       681.85  683.88       PROBABLY DEPOSITIONAL AS CORE:  BDG ANGLE PARALLELS THAT OF
R       681.85  683.88       UNDERLYING LMSX.  BOTTOM CONTACT IS SLIGHTLY DISRUPTED HOWEVER.

K US1   683.88  683.88   0.00

/       683.88  685.52   1.64            BNSX SL GL CH8 BN LM               P  2 BD     T45 <(       <(        D*     L+
L                                              CB                                        B40                         L1
R       683.88  685.52       VERY SILICEOUS ZONE-SULFIDES ARE INTIMATELY IN TGWN WITH LT GY
R       683.88  685.52       CHT.  OCCASIONAL THICK BANDS OF DK GY CHT.  SULFIDE-RICH BANDS
R       683.88  685.52       ARE CALCAREOUS.

/       685.52  686.66   1.14            FGSX GL SL CH2 MX                  P                           <(        M2     M3
L                                              CB                                                                      M2
R       685.52  686.66       MASSIVE.  LOCALLY CRUDELY BEDDED WITH IRREGULAR CONVOLUTE AND
R       685.52  686.66       DISCONTINUOUS BDG.  INTV DOMINATED BY IRREGULAR SL, GL & PY-RICH
R       685.52  686.66       PATCHES.  CONTAINS OCCASIONAL SULFIDE AND CHT FRAGS.  INTV IS
R       685.52  686.66       PROBABLY THE RESULT OF SOFT SED SLUMPING OF BNSX.

/       686.66  689.28   2.62            BNSX GL SL CH8 LM BN               P  2 BD     T70 <*          L)     L*     L=
L                                              CB     LC                                 T40                         L2
R       686.66  689.28       VERY SILICEOUS ZONE.  ALTERNATING SULFIDE-RICH BANDS AND CHT
R       686.66  689.28       BANDS.  SULFIDES ARE INTIMATELY INTGWN WITH CHT AND MAY BE
R       686.66  689.28       LAMINATED IN PART.  SULFIDE-RICH BANDS ARE CALCAREOUS.  BEDDING
R       686.66  689.28       LOCALLY EXHIBITS SLUMP FOLDING.

/       689.28  691.90   2.62            BNSX SL GL CH9 LM BN               P  2 BD     T60 <*       <         L*     L)
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       689.28  691.90      SILICEOUS;  LOCALLY MASSIVE WITH MOTTLED TEX.  BEDDING LOCALLY
R       689.28  691.90      DISRUPTED AND BRECCIATED.  SULFIDES INTIMATELY INTGWN WITH CHT.
R       689.28  691.90      SULFIDE-RICH ZONES SLIGHTLY CALCAREOUS.  GL, PY AND MINOR SL
R       689.28  691.90      OCCUR ALONG STYLOLITES.

/       691.90  692.92   1.02            BNSX SL GL CH8 LM BN                P  2 BD     T60 <+                  D*    L)
L                                                PY                                      B58                             L=
R       691.90  692.92      MINOR FAULTING & FOLDING PROBABLY RELATED TO SOFT SED SLUMPING.
R       691.90  692.92      LOCALLY SLIGHTLY CALCAREOUS.  UNIDENTIFIED WH MIN INTIMATELY
R       691.90  692.92      INTGWN WITH CH-POSSIBLY WH SL OR BARITE?  COMPRISES ^10% OF INTV

/       692.92  694.03   1.11            LMSX SL CB CH3 LM                   P  1 BD     T48 <+          L4      L+    L+
L                                                BA                                      B65                             L2
R       692.92  694.03      LOCALLY BANDED.  MINOR FOLDING.  TOP HALF OF INTV IS BARITE-
R       692.92  694.03      RICH;  BOTTOM HALF IS CHT-RICH.  SULFIDES OCCUR IN LAM
R       692.92  694.03      INTIMATELY INTGWN WITH CHT AND BARITE.  INTV IS CALCAREOUS.

/       694.03  696.70   2.67            CHER       CH9 MX BN                P                <+                  D+    L(
L                                                     ST                                                                L)
R       694.03  696.70      RANGES FROM BANDED TO BRECCIATED AND MASSIVE.  BRECCIATED INTVS
R       694.03  696.70      APPEAR TO BE THE RESULT OF SLUMPING.  COLOR RANGES FROM WHITE TO
R       694.03  696.70      BUFF TO M & DK GY.PYR DISSEM THROUGHOUT.  MINOR SL & GL IN LAM
R       694.03  696.70      AND ALONG STYLOLITES.  LOCALLY SLIGHTLY CALCAREOUS.

/       696.70  698.18   1.48            BNSX SL GL CH9 BN ST                P  2 BD     T70 <(          <(      D*    D*
L                                                CB                                      B55                             L=
R       696.70  698.18      BANDS TEND TO BE BRECCIATED AND DISCONTINUOUS.  MINERALIZED
R       696.70  698.18      ZONES MODERATELY CALC.

/       698.18  700.90   2.72            LMSX SL BA CH2 LM LC                P  1 BD     T60             L6      L)    L)
L                                                CB                                      B70                             L2
R       698.18  700.90      DELICATE LAMINAE, LOCALLY SLIGHTLY CONVOLUTE.  BARITIC ZONE-
R       698.18  700.90      INTLAM BARITE, SL, GL, PYR AND CHT. DISSEM PYR COMMON.

/       700.90  702.28   1.38            BNSX BA SL CH4 BN ST                P  2 BD     T60 <)          L5      D*    L+
L                                                CB     LM                               B70                             L+
R       700.90  702.28      INT BANDED CH & BA WITH OCCASIONAL SULFIDE LAM.  CHT BANDS TEND
R       700.90  702.28      TO BE RELATIVELY THICK IE.  10-15CMS.  CONTACT BTWN CHT & BARITE
R       700.90  702.28      TENDS TO BE STYLOLITIC.  GL CONCENTRATED IN BTM 50CMS.  BDG SL
R       700.90  702.28      CONVOLUTE.

/       702.28  703.37   1.09            BNSX GL PY CH= BN                   P  2 BD     T65             L4      L3    L2
L                                                CB                                      B75                             L=
R       702.28  703.37      BANDS TEND TO BE WISPY AND IRREGULAR.  GL AND PY INTIMATELY
R       702.28  703.37      INTGWN.

/       703.37  704.55   1.18            BNSX SL GL CH1 BN                   P  2 BD     T70             L8      L)    L+
L                                                BA                                      B54                             L1
R       703.37  704.55      ZONE IS V SLIGHTLY CALC LOCALLY.  MINOR SLUMP FOLDING.

/       704.55  708.30   3.75            BNSX SL BA CH6 BN                   P     BD     T60 <)          L3      L*    L*
L                                                                                        B55                             L1
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RN LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA
R       704.55  708.30      CHT-RICH ZONE-ALTERNATING BANDS OF M GY CHT AND CHT INTIMATELY
R       704.55  708.30      INTGWN WITH SL.  OCCASIONAL BARITE LAM.  BDG LOCALLY SLIGHTLY
R       704.55  708.30      DISRUPTED.  QTL VNS ARE APPARENTLY CONTROLLED BY TENSION
R       704.55  708.30      FRACTURES PERPENDICULAR TO BDG IN CHT BANDS.

/       708.30  709.27  0.97            CHER        CH9 MX                  P                                  L*
L                                          5A                                                                        L*
R       708.30  709.27      IRREGULAR 1CM SL-PYR BAND AT 708.80M

/       709.27  710.50  1.23            BNSX SL BA CH3 BN LC                P  2 BD     T65          <* L6    L)    L+
L                                              CB                                                                    L1
R       709.27  710.50      SLIGHTLY CONVOLUTE LAMINAE LOCALLY.

/       710.50  714.60  4.10            BNSX GL SL CH9 BN LC                P  4 BD     T70 <=          L+    L*    L+
L                                          5A CB       ST                                B70                       L+
R       710.50  714.60      ESSENTIALLY A CHT ZONE WITH LOCAL SULFIDE AND SULFIDE-BARITE
R       710.50  714.60      BANDS.  MINERALIZED BANDS ARE CONVOLUTED & PINCH & SWELL.  CHT
R       710.50  714.60      BANDS ARE FRACTURED & INFILLED WITH WHITE CHT & QTZ.

/       714.60  716.80  2.20            BNSX SL GL CH4 BN LC                P     BD    T65 <)          L4    L+    L=
L                                              CB     LM                                B65                       L2
R       714.60  716.80      VARIABLE CORE:  BDG ANGLE DUE TO SLUMP FOLDING.  BDG COMMONLY
R       714.60  716.80      DISRUPTED & IRREGULAR BECAUSE OF SLUMPING.  LOCAL SMALL SCALE
R       714.60  716.80      FAULTING.  CONVOLUTE BDG IN BOTH SULFIDE & CHT BANDS.  LOCALLY
R       714.60  716.80      LAMINATED.

/       716.80  718.41  1.61            CHER            MX                  P                <=       <)       D=
L                                          5A                                                                        D.
R       716.80  718.41      TEXTURE IS GENERALLY MASSIVE.  BASE IS LAMINATED BUT LAMINAE
R       716.80  718.41      HAVE BEEN DISPLACED BY FAULTING RELATED TO FORT SED DEFORM N.
R       716.80  718.41      UPPER PART OF INTV EXHIBITS BRECCIA TEX, WITH ROUNDED CHT FRAGS
R       716.80  718.41      IN CHT MTX-DUE TO SLUMPING.  LATE TECTONIC FRACTURING AND
R       716.80  718.41      INFILLING BY QTZ VNS WITH MNR CALCITE.  TR GL IN MTX OF SLUMP
R       716.80  718.41      BRECCIA.

/       718.41  719.64  1.23            BNSX SL GL CH4 BN ST                P  3 BD     T55 <*          <4    <+    <=
L                                              CB                                    B55                       <2
R       718.41  719.64      UPPER HALF OF INTV IS CHT-RICH;  LOWER PART IS BARITE-RICH.

/       719.64  728.62  8.98            BNSX SL GL CH4 BN LM                P  2 BD     T62          L5    L)    L*
L                                              CB     ST                                B50                       L1
R       719.64  728.62      BANDS ARE GENERALLY RELATIVELY UNDISTURBED.  LOCAL MINOR FOLDING
R       719.64  728.62      HOWEVER.

/       720.80  720.85  0.05          X BNSX SL GL CH4 BN LM                R  2 BD     T75          L5    L)    L*
L

/       722.16  722.21  0.05          X BNSX SL GL CH4 BN LM                R  2 BD     T55          L5    L)    L*
L

/       723.00  723.05  0.05          X BNSX                                R     BD     75
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RT 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      725.80  725.85   0.05            X BNSX SL GL CH4 BN LM                R  2 BD      T55                L5     L)     L*
L

/      728.62  729.52   0.90              BNSX SL BA CH1 BN LM                P  2 BD      T50                L7     L1
L                                                CB                                        B40                                L2
R      728.62  729.52      IRREGULAR BANDS WHICH HAVE UNDERGONE MINOR SLUMP FOLDING.
R      728.62  729.52      PYRITE OCCURS AS BANDS;  ALSO AS OVOID BLEBS.  PYRITE BANDS TEND
R      728.62  729.52      TO BE LENTICULAR-POSSIBLY BOUDINED (DIAGRAM BELOW).

/      729.52  730.20   0.68              CHER            MX ST                P                <+                 D.
L                                                5A
R      729.52  730.20      MINOR LAM OF WH CHT.

/      730.20  733.50   3.30              BNSX SL BA CH3 LM LC                P  2 BD      T80 <+             L5     K*     L=
L                                                CB      ST BN                             B25                                L2
R      730.20  733.50      ZONE IS MODERATELY CALCAREOUS.  BDG HAS LOCALLY UNDERGONE SLUMP
R      730.20  733.50      FOLDING.

/      730.61  730.66   0.05            X BNSX SL BA CH3 LM LC                R  2 BD      T52 <+             L5     K*     L=
L

/      733.40  733.45   0.05            X BNSX SL BA CH3 LM LC                R  2 BD      T38 <+             L5     K*     L=
L

K LS1  733.50  733.50   0.00

/      733.50  749.16  15.66              BRHM        *S*                ST9  P                V=             B.     D+     D.
L                                                4A                  *

/      733.50  735.85   2.35            X BRHM SF     *S*                ST9  R                V=             B.     D+     D.
L                                                4A                  *
R      733.50  749.16      QTZ STOCKWORKS AT 740.0 - 742.20, 740.80 - 741.70 AND 744.15 -
R      733.50  749.16      744.50M.  POSSIBLE SULFIDE FRAG AT 734.20M;  GL CORE;  PYR RIM.
R      733.50  749.16      POSSIBLE BARITIC BLEBS (SPOTTED BARITE?) IN ARGL AT 743.80M.

K US2  749.16  749.16   0.00

/      749.16  750.00   0.84              MSSX SL GL CH2 MX BN                P  2 BD      T35                     M=     M6
L                                                CB                                        B48                                L=
R      749.16  750.00      UPPER PT OF INTV (749.16 - 749.50) IS BNSX WITH ALTERNATING CHT
R      749.16  750.00      AND SULFIDE (SL, GL, PY) -RICH BANDS.  CHT BANDS EXHIBIT MNR
R      749.16  750.00      FOLDING AND ARE BRECCIATED.  SULFIDES HAVE INFILLED BRECCIA
R      749.16  750.00      INTERSTICES.  LOWER PT OF INTV (749.50 - 750.00) IS MASSIVE GL.

/      750.00  750.50   0.50              LMSX SL SF      LM LC               P  1 BD      T48 <-                 L*
L                                                CB      BN                                B48                                L+
R      750.00  750.50      LAMINAE ARE LOCALLY CRENULATED DUE TO SOFT SED DEFORMATION LOCAL
R      750.00  750.50      SLUMP CLEAVAGE.  APPEARS TO BE AN ARSI UNIT-ALTERNATING ARGL,
R      750.00  750.50      SND AND SULFIDE-RICH LAMINAE.  SULFIDE LAMINAE COMPRISE SL, CB
R      750.00  750.50      AND QTZ.  STRONG SILICIFICATION HAS OBSCURED ORIGINAL TEXTURES
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       750.00  750.50      TO SOME EXTENT.

/       750.50  751.30   0.80            BNSX GL PY CH7 BN LM              P  3 BD     T50 <*                L1    L2
L                                              CB                                      B10                            L*
R       750.50  751.30      CHT BANDS AE BRECCIATED SLIGHTLY TOWARDS BASE, AND INTERSTICES
R       750.50  751.30      ARE INFILLED WITH SULFIDES.  INTV COMPRISES ALTERNATING CHT AND
R       750.50  751.30      SULFIDE BANDS COMPRISE LAMINAE OF M AND DK GY CHT.  LOCAL SLUMP
R       750.50  751.30      FOLDING-SMALL SCALE.

/       751.30  752.76   1.46            FGSX GL PY CH3 MX LC              P                        L+ L2    #1    #3
L                                              CB     BN
R       751.30  752.76      INTV WAS ORIGINALLY BNSX BUT HAS BEEN HIGHLY BRECCIATED.  GL AND
R       751.30  752.76      PY OCCUR AS BRECCIA FILLING BTWN CHT FRAGMENTS.  THE ORIGINAL
R       751.30  752.76      BANDED TEXTURE IS PRESERVED ONLY LOCALLY.  AN INTERESTING NG
R       751.30  752.76      FEATURE IS THE PRESENCE OF SEVERAL CALCITE LAMINAE AT 751.80M.

/       752.76  753.76   1.00            LMSX SL BA CH4 LM BN              P  1 BD     T30              L5    L)    L)
L                                              CB     LC                                B40                            L1
R       752.76  753.76      ALTERNATING CHT AND BA BANDS.  SULFIDES GENERALLY OCCUR AS LAM
R       752.76  753.76      WITHIN BA BANDS, BUT LOCALLY OCCUR WITH CHT.  LAM ARE LOCALLY
R       752.76  753.76      SLIGHTLY CONVOLUTE AND CRENULATED BUT TO SOFT SED SLUMPING (?).

/       753.76  755.10   1.34            BNSX SL BA CH= BN MX              P  2 BD                  L8    D)    D)
L                                              CB                                      B60                            L2
R       753.76  755.10      IN PT BANDED;  IN PART MASSIVE.

/       755.10  757.73   2.63            BNSX SL BA CH3 BN LC              P  2 BD     T40 <.           L5    L(    D-
L                                              CB     ST                                B40                            L1
R       755.10  757.73      QTZ VNG RESTRICTED TO CHT BNDS.  BDG HIGHLY CONVOLUTE-CORE TO
R       755.10  757.73      BDG ANGLES VARY WIDELY.

/       756.20  756.25   0.05          X BNSX SL BA CH3 BN LC              R  2 BD     T72 <.           L5    L(    D-
L

/       757.73  759.33   1.60            LMSX SL GL CH3 LM BN              P  1 BD     T50              L5    D=    L=
L                                              CB     LC                                B50                            L=
R       757.73  759.33      CONVOLUTE LAM:  CORE TO BDG ANGLE VARIES SOMEWHAT.  UPPER 60CMS
R       757.73  759.33      SL-RICH.  LOWER SECTION PY & GL-RICH.

/       759.33  764.64   5.31            BNSX SL GL CH5 LM BN              P  2 BD     T60 <)           L5    L)    L*
L                                              CB        LC                             B40                            L1
R       759.33  764.64      CORE TO BDG ANGLES VARY.  QTZ VNS RESTRICTED TO CHT BANDS,
R       759.33  764.64      APPROX PERPENDICULAR TO BDG.

/       759.60  759.65   0.05          X BNSX SL GL CH5 LM BN              R  2 BD     T65 <)           L5    L)    L*
L

/       760.30  760.35   0.05          X BNSX SL GL CH5 LM BN              R  2 BD     T40 <)           L5    L)    L*
L

/       760.80  760.85   0.05          X BNSX SL GL CH5 LM BN              R  2 BD     T60 <)           L5    L)    L*
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      761.00  763.50   2.50          X BNSX SL GL CH5 LM BN              R  2 BD     T70 <)          L5    L)    L*
L

/      763.50  764.64   1.14          X BNSX SL GL CH5 LM BN              R  2 BD     T40 <)          L5    L)    L*
L

/      764.64  767.64   3.00            FGSX SL PY CH9    LC              P                V+                #)    #)
L                                            CB                                                                    #+
R      764.64  767.64      INTV ORIGINALLY BANDED BUT HAS BEEN HIGHLY BRECCIATED AND
R      764.64  767.64      DISRUPTED.  SULFIDES GENERALLY OCCUR IN INTESTICES BTWN CHT
R      764.64  767.64      FRAGS, BUT ARE OCCASIONALLY PRESERVED AS IRREGULAR LAMINAE.

/      767.64  769.64   2.00            BNSX GL SL CH2 BN LC              P  2 BD     T38             L5    D)    L2
L                                            CB     LM                                B45                         L1
R      767.64  769.64      BANDING RANGES FROM SLIGHTLY TO HIGHLY CONVOLUTE AND BRECCIATED.
R      767.64  769.64      CORE TO BDG ANGLES VARY SOMEWHAT.

/      769.64  773.28   3.64            LMSX SL GL CH7 BN LM              P  1 BD     T40 <*          L3    L)    L)
L                                            BA        ST                              B38                         L=
R      769.64  773.28      ALTERNATING CHT BANDS UP TO SEVERAL CMS AND LAMINATED ZONES
R      769.64  773.28      COMPRISING LAM OF CHT, BA, SL, PY AND GL.  SULFIDE ZONES V
R      769.64  773.28      SLIGHTLY CALC.  BDG IS LOCALLY SLIGHTLY FOLDED.  CHT BANDS ARE
R      769.64  773.28      FRACTURED.

/      770.23  771.18   0.95          X LMSX SL GL CH7 BN LM              R  1 BD     T60 <*          L3    L)    L)
L

/      773.28  774.12   0.84            CHER PY        BN LM              P  2 BD     T55 V1          L1    L=
L                                            5A                                      B40
R      773.28  774.12      LOCALLY BRECCIATED.
R LIT  773.28  774.12      UNIDENTIFIED BIK ACICULAR XLS OCCUR IN QTZ VNS.  THESE OCCUR IN
R      773.28  774.12      FIBROUS MATS.

/      774.12  775.42   1.30            LMSX SL CB CH8 LM BN              P  1 BD     T48             L1    L)    L)
L                                            GL                                      B50                         L=
R      774.12  775.42      ALTERNATING CHT BANDS AND INTVS OF LMSX CONSISTING MAINLY OF SL
R      774.12  775.42      AND BA WITH MNR PYR AND GL.  CHT BANDS LOCALLY BRECCIATED AND
R      774.12  775.42      INFILLED WITH SULFIDES.

/      775.42  789.70  14.28            LMSX SL CB CH5 LM BN              P  1 BD     T30 <)          L4    L*    L*
L                                            BA     LC                                B60                         L=
R      775.42  789.70      ALTERNATING CHT BANDS AND BANDS CONSISTING OF LAMINATED BH AND
R      775.42  789.70      SL WITH MINOR PYR AND GL.
R SIG  775.42  789.70      UNIDENTIFIED BIK ACICULAR XLS OCCUR IN MNR AMOUNTS IN QTZ
R      775.42  789.70      VNS-OCCUR IN FIBROUS MATS.
R      775.42  789.70      QTZ VNS ARE RESTRICTED TO CHT BANDS AND ARE ORIENTED APPROX
R      775.42  789.70      PERPENDICULAR TO BDG-PROBABLY FILL TENSION GASHES. CHT BANDS
R      775.42  789.70      LOCALLY SLIGHTLY CONVOLUTE AND OCCASIONALLY BRECCIATED CORE TO
R      775.42  789.70      BDG ANGLES VARY SOMEWHAT.

/      776.33  777.90   1.57          X LMSX SL CB CH5 LM BN              R  1 BD     T50 <)          L4    L*    L*
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
F -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ----  --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                          R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT       2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       777.90  780.80   2.90            X LMSX SL CB CH5 LM BN                R  1 BD      T60 <)           L4     L*     L*
L

/       780.80  782.42   1.62            X LMSX SL CB CH5 LM BN                R  1 BD      T30 <)           L4     L*     L*
L

/       782.42  785.00   2.58            X LMSX SL CB CH5 LM BN                R  1 BD      T50 <)           L4     L*     L*
L

/       785.00  789.70   4.70            X LMSX SL CB CH5 LM BN                R  1 BD      T60 <)           L4     L*     L*
L

/       789.70  790.48   0.78              CHER            LM BN               P  2 BD      T60 <+                  L4
L                                                 6A                                       B48                            L*

/       790.48  794.40   3.92              LMSX SL GL CH7 BN LM                P  1 BD      T60 <)       <- L3      L+     L(
L                                                 BA                                       B35                            L=
R       790.48  794.40       ALTERNATING CHT BANDS AND LAM BA-CHT-SL-PY-GL.
R  SIG  790.48  794.40       QTZ-CARB VNS CONTAIN AN UNIDENTIFIED BLK FIBROUR MINERAL;
R       790.48  794.40       ALSO MNR GL.

/       794.40  795.55   1.15              CHER CB SL      BN                  P  2 BD      T60 <=           L1     L*
L                                                 6A BA                                    B45                            L-
R  SIG  794.40  795.55       MINOR UNIDENTIFIED BLK ACICULAR MIN IN QTZ VNS AS ABOVE.

/       795.55  796.20   0.65              LMSX SL GL CH6 LM BN                P  1 BD      T30 <)           L3     L)     L+
L                                                 CB                                       B30                            L=
R       795.55  796.20       ALTERNATING CHT BANDS & LAM SL - GL - BA - PYR.
R       795.55  796.20       BDG LOCALLY SLIGHTLY DISRUPTED.  UNIDENTIFIED BLK ACICULAR MIN
R       795.55  796.20       IN QTZ VNS AS ABOVE (MINOR).

/       796.20  798.59   2.39              CHER SL CB CH9 BN LM                P  2 BD      T40 <=           L=     L)
L                                                 6A                                       B55                               L)
R       796.20  798.59       CHER WITH MNR BA-SL LAM.  LOWER 0.5M POSSIBLY SOMEWHAT
R       796.20  798.59       ARGILLACEOUS.

K  LS2  798.59  798.59   0.00

/       798.59  801.02   2.43              ARGL SF SL      LM ST               P  1 BD      T50 V=                  L(
L                                                 6A     CH)                               B50                            L(
R       798.59  801.02       SILICIFICATION HAS OBSCURED ORIGINAL TEXTURES TO SOME EXTENT.
R       798.59  801.02       ESSENTIALLY A SILICIFIED ARGL UNIT WITH OCCASIONAL BANDS ( <1CM)
R       798.59  801.02       OF CHT, PYR & SL).  THESE BANDS PARALLEL BDG & ARE SL CALC.

/       801.02  806.81   5.79              ARGL        SN+ BD SS               P  2 BD      T50 <*       <*         <(
L                                                 5A                                       B50
R       801.02  806.81       BTM 1.5M BECOMES ARSI (^10% SND).  THIS INTV HAS UNDERGONE
R       801.02  806.81       SLIGHT TO MODERATE SOFT SED DEFORMATION PARTICULARLY IN BTM
R       801.02  806.81       0.5M.  SD VNS ARE CONCENTRATED HERE.
R       801.02  806.81       LOCAL INTVS OF BUFF-COLORED PYRITIC MUDSTONE (UP TO 5 CMS).
```

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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       801.02  802.02   1.00            X ARGL SF    SN+ BD SS               R  2 BD     T50 <*       <*       <(
R       801.02  802.02       SF DECREASES IN INTENSITY AWAY FROM ORE ZONE.

R ASY   681.84  685.80       CHECK AZIMUTH - IT IS CALCULATED FROM EXISTING DATA.
```

# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6802

| | | | | | |
|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81BWH078 | COLLAR ELEVATION: | 1296.37 | AZIMUTH( DEG ) : | 355.00 |
| TOTAL DEPTH/LENGTH : | 376.85 | NORTHING(- IF S): | 7002568.00 | VERTICAL ANGLE : | -83.00 |
| CORE/HOLE DIAMETER : | HQNQ | EASTING (- IF W): | 436555.31 | CO-ORD SYSTEM : | UTM |

GEOLOGGED BY : JER + JDK
DATE (YY/MM/DD): 810926
PROJECT NUMBER : J-MAIN

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 27.43 | 0.00 | -81.25 |
| 2 | 88.39 | 5.00 | -81.25 |
| 3 | 118.26 | 6.00 | -81.25 |
| 4 | 134.42 | 10.50 | -80.34 |
| 5 | 143.25 | 13.00 | -79.00 |
| 6 | 158.50 | 14.00 | -79.00 |
| 7 | 170.99 | 16.30 | -79.30 |
| 8 | 185.93 | 19.00 | -79.75 |
| 9 | 200.56 | 19.00 | -79.75 |
| 10 | 220.06 | 25.00 | -80.10 |
| 11 | 231.65 | 21.50 | -78.30 |
| 12 | 246.58 | 21.00 | -78.00 |
| 13 | 259.99 | 23.50 | -77.80 |
| 14 | 270.66 | 22.00 | -78.00 |
| 15 | 285.90 | 22.00 | -78.25 |
| 16 | 301.14 | 20.50 | -77.66 |
| 17 | 313.64 | 25.00 | -78.50 |
| 18 | 328.57 | 25.00 | -78.66 |
| 19 | 344.78 | 26.00 | -78.25 |
| 20 | 359.05 | 27.00 | -78.30 |

```
   F   - I N T E R V A L -    CORE  T- %       TYPI- QAL  TEX-  GRAIN        PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    . DEC.PLACE)RECOV-  M M ROCK  FYING MIN TURES CHARACS                         H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY   O I       TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T ( . ) D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3       3  4 O     /        2    AZM  RT H  H  H  H  H  H  H  H  H  H   1   1
Y  G                          DESIG      VIR  COL            R     C             STRUCTUR-2 A  A  A  A  A  A  A  A  A  A     2   2

R SVY  134.42  134.42      BEGINNING OF WEDGED HOLE A.
R SVY  134.42  134.42      HALL AND RONE STEEL WEDGE FLATTENING.
R SVY  170.99  170.99      BEGINNING OF WEDGED HOLE B.
R SVY  170.99  170.99      HALL AND RONE STEEL WEDGE.
R SVY  202.08  282.08      CLAP RETRIEVABLE WEDGE, FLATTENING
R SVY  233.78  233.78      CLAP RETRIEVABLE WEDGE.  WEDGE WAS BROKEN, NO EFFECT.
R SVY  376.85  376.85      END OF WEDGED HOLE B.

/        0.00  173.71 173.71            MISS                              P

/      173.71  174.74   1.03            BRHT PY GR      F* B*         NP2   P                                  6*
L                                          3A         R*     2      C N08
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      174.74  178.41   3.67            BRHM PY GR                    QP9   P                                  7*
L                                         1A                2   1 C
R      174.74  178.41      CORE IS BADLY FRACTURED.
R      174.74  178.41      MINOR SILT (<1%) BANDS IN ARGILLITE FRAGMENTS.

/      178.41  181.05   2.64            ARSN PY GR SI1 SS // 2 4 4 4       P  2 BD     U75                    8*
L                                         4A     SN3     DB 4

/      181.05  208.84  27.79            BRHT PY GR SI1 F* B*          NQ7   P                                  6*
L                                         2A                2   1 C MN2
R      181.05  208.84      SOME PYROBITUMINE PRESENT.

/      187.35  189.72   2.37          X BRHT PY GR SI1 F* B* 3 4    4 PR6   R                                  6.
L                                         3A     SN3        2   3 C MN*

/      194.16  195.07   0.91          X BRHT PY GR SI1 B* F*          JL1   R                                  6*
L                                         3A         H*           C MQ9

/      195.68  195.98   0.30          X BRHT PY GR SI1 B* F*          573   R                                  6.
L                                         3A                      C 577

/      196.29  197.21   0.92          X BRHT PY GR SI1 B* F*          JK2   R                                  6*
L                                         3A                      C KM8

/      199.64  201.10   1.46          X BRHT PY GR SI1 B* F*          JO1   R                  <+              6*
L                                         3A         H* R*        C MN9

/      202.08  203.61   1.53          X WEDG                                R
L
R      202.08  203.61      WEDGE.

/      203.83  205.01   1.18          X BRHT PY GR SI1 B* F*          JP2   R                                  6.
L                                         3A                      JO8

/      205.94  206.65   0.71          X BRHT PY GR SI1 B* F*          KP2   R                                  6*
L                                         3A         R*           KO8

/      206.86  208.23   1.37          X BRHT PY GR SI1 B* F*          LQ2   R                                  6*
L                                         3A                      JN8

/      208.84  212.85   4.01            SAND PY GR      SS // 3 4 4 4       P  2 BD     U72                    8*
L                                         5A                4 3   C
R      208.84  212.85      SANDSTONE MAY REPRESENT A SLUMP STRUCTURE INTO A CHANNEL,
R      208.84  212.85      SINCE THIS UNIT IS NOT PRESENT IN DDH 81-78 AT THE PERSPECTIVE
R      208.84  212.85      DEPTH.  NOTE ALSO THAT THE CHARACTER OF THE SAND IS SIMILAR TO
R      208.84  212.85      THAT SEEN IN THE INTERVAL 178.41 TO 181.05 M.

/      212.85  216.85   4.00            ARSI PY     SI1 SS // 3 4 5 4       P  2 BD     U80 <*                 8*
L                                         2A     SN2        4 3   C
R      212.85  216.85      AT 214.77 M THERE IS A 10 CM CONCENTRATION OF QUARTZ VEINS
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SO QS HA PR MT SL HA

R       212.85  216.85      THAT HAD CONTAINED A CARBONATE, WHICH HAS BEEN LEACHED OUT.

/       216.85  219.59   2.74            ARSN PY    SI1       3 5 4 5       P                <)                8*
L                                          3A    SN3       4 3   C
R       216.85  219.59      LEACHED QUARTZ CARBONATE CAVETIES AND VEINS.
R       216.85  219.59      CROSS CUTTING QUARTZ VEINS COMMON.

/ FAL   219.59  231.52  11.93            FAUL                              P                <)                6*
L
R       219.59  231.52      UP TO 226.77 M FAULT GAUGE APPEARS TO BE ARSN.
R       219.59  231.52      FROM 226.77 M TO 231.28 M GAUGE IS BRHT WITH LESS THAN 10% CHERT

/       231.52  232.28   0.76            ARSN PY    SI2 BS G; 2 5 1 8       P  3 BD     U55                    8.
L                                          2A    SN1 //    6     C
R       231.52  232.28      AN UPPER BOUMA SEQUENCE.

/       232.28  233.78   1.50            SAND PY    SI2 BS G; 3 5 9 6       P  3 BD     U54                    8*
L                                          2A    SN8 //    6     C
R       232.28  233.78      UPPER BOUMA SEQUENCE INTO A MIDDLE SEQUENCE.

/       233.78  241.78   8.00            BRHT PY        BS G;         OQ2   P                                    8*
L                                          4A                6     C OP8
R       233.78  241.78      LOWER BOUMA SEQUENCE FOR INTERVAL 232.28 - 241.78 M.
R       233.78  241.78      IN THE INTERVAL BETWEEN 231.52 M - 241.78 M REPRESENTS
R       233.78  241.78      1 COMPLETE BOUMA SEQUENCE AND 1 PARTIEL SEQENCE.

/ FAL   241.78  263.35  21.57            ARSI CR GR GG4 // SS 0 1   3       P  2 BD          <*           <)    D)
L                                          N BA SI+

/ FAL   241.78  263.35  21.57          3 SILT CR GR SI8 // SS 0 2   3       R  2 BD          <*           <)    R+
L                                          1A BA GG4

/ FAL   241.78  263.35  21.57          1 SAND CR GR GG4 // SS 2 3 4 4       R  2 BD          <*           <)    R+
L                                          2A BA           7
R       241.78  263.35      PYRITE MAINLY AS FINE SAND REPLACEMENT IN BEDDING.
R       241.78  263.35      FAULT DISRUPTION MAKES ACCURATE DESCRIPTION DIFFICULT.
R       241.78  263.35      MEAGER EVIDENCE SUGGESTS THREE ROCK TYPES CONFORMABLE;
R       241.78  263.35      SAND OFTEN ALONG BEDDING PLANES, AND SILT-ARGL OFTEN INTERBEDDED

/ FRG   253.29  253.59   0.30          X CGSN PY    SN8 G; IM 4 5 3 7       R                <*                R1
L                                          3A        R*    5 .

/       263.35  267.00   3.65            CGSN BA    SN7 DB SS 3 4   6       P                             J2    R=
L                                          3A    *C5 R*    5

/       265.00  267.00   2.00          X BRPM           FU    3 4   5 OQ8   R                             <*    D)
L                                          1A
R       265.00  267.00      LARGER CLASTS  LOWER IN INTERVAL, WITH DECREASE IN SAND MATRIX.

/       267.00  277.88  10.88            ARGL CR GR SN) SS    0 1   3       P  2 BD          <+           <+    D.
L                                          N BA           7                                  <.                 <.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O C CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       267.00  277.88      SAND OCCURS AS CONFORMABLE LAMINATIONS, AND SINGLE INJECTION.

/       269.34  269.44  0.10          X SAND           DB    3 4   5       R                                B)
L                                              3A
R       269.34  269.44      RIP-UP CALSTS.  GROUND CORE REDUCES RECOVERY.

/ FAL   276.00  277.88  1.88          X ARGL CR GR SN) SS    0 1   3       R  2 BD         V+          <+     R)
L                                              GG4                                                            #=

/       277.88  281.94  4.06            BRHT CR     *C) R* B*         OQ8   P                 #=                 B+
L                                            2A         F*          C KO2                           #)              #.

/       281.94  282.95  1.01            BRPM        SN3 CU    3 4   7 MP5   P
L                                            3A                    5     0 KM2
R       281.94  282.95      THIS INTERVAL CONTINUOUS WITH UPPER BRHT: ARGL AMOUNT AND SIZE
R       281.94  282.95      DECREASES, CHERT CLASTS ABSENT, SAND 70% ANGULAR CHERT GRAINS.
R       281.94  282.95      PEBBLE SIZED CLASTS.

/       282.95  285.50  2.55            ARGL CR GR      //    0 1   1       P  2 BD       80            <)     D*
L                                              N BA            8                  CN       80

/       284.99  285.50  0.51          X BRPM CR GR SN2        3 4   4 MQ8   R                          <*     D*
L                                              1A                          C JK+
R       284.99  285.50      MATRIX FINE SAND, MUD.

/       285.50  288.00  2.50            BRHT CR     *C) R* B*         OQ8   P                 #=                 B+
L                                            2A         F* H*       C KO2                           #)              #.
R       285.50  288.00      HE IN MATRIX, SI BANDS.  BITUMENS IN MATRIX.

/       288.00  291.81  3.81            BRPM        SN4               MR5   P                                HE
L                                                    SI1             0 KM=                                    R)

/       291.81  293.83  2.02            BRPM        SN9 DB    3 4   4 MO1   P                                HE B=
L                                            2A                    7                                          R)

/       293.83  306.10  12.27           BRHT CR GR *C) R* B*         OQ8   P                 <+          <+     B+
L                                            2A         F*          C KO2                           <*

/ FAL   294.20  294.60  0.40          X BRHT CR GR *C) R* B*         OQ8   R                 <+          <1     B+
L                                            2A     GG7 F*          C KO2                           <*

/       294.60  300.84  6.24          X BRHT CR GR *C) R* B*         OQ8   R                 #1          <=     B+ B.
L                                            2A         F*          C KO2                           <*            V)

/       300.84  301.45  0.61          X BRHT CR GR *C) R* B*         OQ8   R                 #1          <=     B+
L                                            2A         F*          C KO2                           <*

/       301.45  303.50  2.05          X BRHT CR GR *C) R* B*         OQ8   R                 #1          <=     B+ B.
L                                            2A         F*          C KO2                           <*
R       306.10  307.75      MINOR SAND CLASTS.
R EDT   306.10  307.75      INTERVAL CHANGED TO MATCH WITH THE MAIN INTERVAL.
```

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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
F -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      306.10  312.75   6.65            BRPM CR GR SN1 F* B* 0 1   3 MO4   P                                  R)
L                                           2A    *C+ R* H*       O KO3

/      306.10  307.75   1.65          X BRPM CR GR SN1 F* B* 0 1   3 MQ6   R                                HE R)
L                                           2A    *C+ R* H*     * C KM2                                    R*
R      306.10  312.75      INTERVAL CHANGED TO MATCH WITH PREVIOUSLY INTERVAL.

/ CON  312.75  314.35   1.60            SAND       SN8 SS // 3 5   7       P  1 LM     U   <*          <* HE R)
L                                           3A        DB G;                    CN      45                R*
R      312.75  314.35      INTERVAL CONTAINS 3 SEPARATE DEPOSITIONAL EVENTS: UPPER CON
R      312.75  314.35      IS GRAD W/ SS FOLLOWED BY // THEN DB (BOUMA AB) TO 312.55 M.
R      312.75  314.35      SECOND (TO 312.75 M) BOUMA AB.  REMAINDER IS BOUMS AB.

/      314.35  315.66   1.31            CGSN CR        G; SS 3 4   7       P                                HE R+
L                                           3A        VG MX 5                                                R)
R      314.35  315.66      WELL SORTED MED-COARSE SAND GRADES DOWN TO PEBBLES.
R      314.35  315.66      ARGL AT TOP SQUEEZED INTO LOWER SAND.

/      315.66  316.66   1.00            CGSN       SN8 G; SS 0 5     MP1   P                                HE R+
L                                                      MX    2       LO+                                     <)
R      315.66  316.66      DURING QUIESCENT PERIOD?

/      316.66  318.10   1.44            CGSN       SN4 F* B* 3 4   6 LO2   P                <.          <. HE R+
L                                           3A        R*            KM4                                     R*

/ FRG  318.10  319.13   1.03            ARGL CR GR SI+       0 1   2       P                             <.    D.
L                                            N

/      319.13  327.65   8.52            CGSN GR    SN3 F* B* 3 4   5 MP2   P                <.              HE 8+
L                                           3A    *C+ R* G;       O MP5                                     R.
R      319.13  327.65      GRAPHITIC IN MINOR SHEARS.  GENERAL NORMAL GRADING.

/      327.65  334.10   6.45            CGSN GR    SN4 F* B* 3 4   5 MP1   P                <.              HE R+
L
R      327.65  334.10      CGSN INTERVALS DIVIDED ON BASIS OF GRADED SEQUENCES,
R      327.65  334.10      POSSIBLY INDICTING DISCRETE EVENTS.  PRESUMED CONTACTS GRAD.

/      334.10  341.20   7.10            CGSN GR    SN5 F* B* 3 4   5 LP1   P                <.              HE R)
L                                                                    LN4

/      341.20  342.30   1.10            CGSN       SN8 MX    3 5 5 6       P                                    R)
L                                           3A              5

/      342.30  354.65  12.35            CGSN       SN4 MX G; 3 4   6 LO2   P                <.          <. HE 8+
L                                           3A    *C+ F* B*       O LP4                                     R.

/      354.65  356.85   2.20            CGSN       SN1    F* 3 4 6 5 LO3   P                <.          <*    B*
L                                           3A    *C1 B*          C LO7

/      354.65  354.85   0.20          X CGSN         9    RU          JM=   R
L                                                         6          JM=
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       354.65  356.85      INTERVAL IS APPARENTLY CONFORMABLE SEQUENCE VARYING IN AMOUNT
R       354.65  356.85      OF CLASTS. SAND AS CLAST MATRIX SAME AS SAND IN LOW CLAST
R       354.65  356.85      SEGMENTS. RIP-UP CLASTS IN SAND.

/       355.70  355.90  0.20          X CGSN       SN9    RU 3 4 6 5 JM=   R                <.          <*    B*
L                                                         6       JM=

/       356.20  356.35  0.15          X CGSN       SN9    RU 3 4 6 5 JL=   R                <.          <*    B*
L                                                         6       JM=

/       356.20  356.85  0.65          X CGSN       SN9    RU 3 4 6 5 JK+   R                <.          <*    B*
L                                                         6       KM1

/       356.85  359.51  2.66            CGSN       SN6 G; MX 3 4 5 7       P            U   <*          <*    D)
L                                           3A             5     0
R       356.85  359.51      CRUDE GRADED BEDDING IN PLACES

/       359.51  360.58  1.07            CGSN       SN1 MX F* 3 4 6 5 L03   P                <.          <*    D)
L                                           3A    *C1 B* IM       C MO7        IM      30

/       360.58  363.10  2.52            BRPM       SI6       0 1 6 2 LP1   P                    <*      <)    B+
L                                           2A                  O LN4
R       360.58  363.10      LARGE CLASTS ARE SILT OR ARSI IN CLOSED AND OPEN STRUCTURE WITH
R       360.58  363.10      BRPM MATRIX

/       361.00  361.30  0.30          X BRPM       SI3       0 1 6 2 LP=   R                #5 <*      <)    6= <*
L                                                                   2                                        <=
R       361.30  363.63      LOW RECOVERY MAY BE PRONOUNCED IN FGSX. SULPHIDE CONTENT BASED
R       361.30  363.63      ON FRAGMENTED CORE. SO IS NOT RELIABLE OVER ENTIRE INTERVAL
R       361.30  376.70      POOR RECOVERY THROUGHOUT ORE ZONE, BUT IMPROVED NEARER TO THE
R       361.30  376.70      END OF HOLE. BEST RECOVERY WITHIN INTERBEDDED SULPHIDE/ATE
R       361.30  376.70      AND SILTSTONE. THE SAME TYPE OF MINERALIZATION IS SEEN BENEATH
R       361.30  376.70      THE MAIN ORE BODY IN DDH 81-78M BUT IS HIGHER GRADE, AND MORE
R       361.30  376.70      EXTENSIVE IN THIS HOLE.

/       363.00  363.10  0.10          X SAND       SN3 VG LC 0 2 4 3       R  2 BD      40             <2    81
L                                           2A    SI2 SS    5                   CN      40                      <1

/ FAL   363.10  363.63  0.53            FGSX SL SF CH2 DB VG         KM1   P                            *3    B2 B) *1
L                                           TA GL                                                                  *2

/ FRG   363.10  363.63  0.53          2 ARGL SF        SS    0 1   1       R                            <2    <2
L                                           1A                                                                  <2

/ FAL   363.63  366.67  3.04            MSSX PY                            P                            <1    >5 <)
L                                           YU BA                                                               >5

/ FAL   363.63  366.67  3.04          1 BRPM       SI1       0 1   2 JL2   R                                  D)
L                                           2A                  KM5
R       363.63  366.67      THIS INTERVAL INFERRED FROM 5 CM FRAGMENT LOCATED UPHOLE FROM
R       363.63  366.67      MSSX.
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       363.63  366.67      OVER 90% IRON SULPHIDE: MASIVE TO EUHEDRAL. LIKELY A LARGE VEIN
R       363.63  366.67      WITHIN THE FAULT. RECOVERY VERY POOR: 20CM OVER 3M RUN. LACK OF
R       363.63  366.67      GOUGE MAY BE DUE TO ITS BEING WASHED OUT (SPLIT CORE BARREL WAS
R       363.63  366.67      USED). ROUNDED CORE FRAGMENTS ALSO INDICATE GRINDING.

/ FAL   366.67  370.67   4.00            SILT       SI4       1 2   3       P                #2          #1    #2     /
L                                            2A              6                                                  #1   /

/ FAL   370.67  374.60   3.93            SILT       SI5       1 2   3       P                #2          #3    #1     /
L                                                            6                                                  #=   /

K UM1   374.60  374.60   0.00

/       374.60  376.85   2.25            LMSX SL GL CH1 LC IB          01    P  1 LM      60 <=          B4    L1    L1
L                                            7A BA SI1                        1 LM      90                         L2

/       374.60  376.85   2.25          4 SILT SF CR     IB             12    R  2 BD      60 <=          <1
L                                            1A GR

/       376.64  376.70   0.06          X ARGL CR GR                    01    R                <=          <1    D+
L                                             N SF

/       376.84  376.85   0.01          X LMSX SL GL CH1 LC IB          01    R  1 LM      60 <=          B4    L1    L1
L                                            7A BA SI1                        1 LM      90                         L2

K LM1   376.85  376.85   0.00
```

# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

DRILLHOLE/TRAVERSE :81BNH085
TOTAL DEPTH/LENGTH : 669.04
CORE/HOLE DIAMETER : NQ

COLLAR ELEVATION: 1244.36
NORTHING(- IF S): 7002370.00
EASTING (- IF W): 436553.06

AZIMUTH( DEG ) : 0.00
VERTICAL ANGLE : -90.00
CO-ORD SYSTEM :

GEOLOGGED BY : DWB + JER
DATE (YY/MM/DD): 810000
PROJECT NUMBER : J-S2

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 12.00 | 49.80 | -87.80 |
| 2 | 24.00 | 49.90 | -87.58 |
| 3 | 37.00 | 67.80 | -86.50 |
| 4 | 49.00 | 79.60 | -86.92 |
| 5 | 61.00 | 92.50 | -86.67 |
| 6 | 73.00 | 111.40 | -86.50 |
| 7 | 85.00 | 103.30 | -87.00 |
| 8 | 98.00 | 97.20 | -86.17 |
| 9 | 110.00 | 99.10 | -86.03 |
| 10 | 122.00 | 119.10 | -86.25 |
| 11 | 134.00 | 118.00 | -86.17 |
| 12 | 146.00 | 119.00 | -85.75 |
| 13 | 159.00 | 113.00 | -86.67 |
| 14 | 171.00 | 114.00 | -86.83 |
| 15 | 183.00 | 108.00 | -87.47 |
| 16 | 195.00 | 135.00 | -85.50 |
| 17 | 207.00 | 146.00 | -85.10 |
| 18 | 219.00 | 143.10 | -84.92 |
| 19 | 232.00 | 155.10 | -84.53 |
| 20 | 244.00 | 156.10 | -84.25 |
| 21 | 256.00 | 166.30 | -84.17 |
| 22 | 268.00 | 164.40 | -84.05 |
| 23 | 280.00 | 159.50 | -82.00 |
| 24 | 293.00 | 160.50 | -81.08 |
| 25 | 305.00 | 164.50 | -80.08 |
| 26 | 317.00 | 171.50 | -79.42 |
| 27 | 329.00 | 171.50 | -78.58 |
| 28 | 341.00 | 168.70 | -79.00 |
| 29 | 354.00 | 170.70 | -79.33 |
| 30 | 366.00 | 171.00 | -79.08 |
| 31 | 378.00 | 170.10 | -79.00 |
| 32 | 390.00 | 168.10 | -78.75 |

| | | |
|---|---|---|
| 33 | 402.00 | 164.20 | -78.07 |
| 34 | 415.00 | 168.20 | -77.78 |
| 35 | 427.00 | 162.30 | -77.00 |
| 36 | 439.00 | 158.40 | -76.03 |
| 37 | 451.00 | 157.50 | -75.83 |
| 38 | 463.00 | 156.50 | -75.33 |
| 39 | 475.00 | 154.60 | -75.05 |
| 40 | 488.00 | 154.60 | -74.75 |
| 41 | 500.00 | 152.60 | -74.50 |
| 42 | 512.00 | 151.70 | -73.42 |
| 43 | 524.00 | 149.80 | -71.50 |
| 44 | 536.00 | 149.80 | -70.47 |
| 45 | 549.00 | 147.00 | -69.83 |
| 46 | 561.00 | 146.20 | -68.58 |
| 47 | 573.00 | 147.10 | -68.38 |
| 48 | 585.00 | 147.20 | -68.17 |
| 49 | 594.66 | 145.40 | -68.00 |
| 50 | 657.45 | 134.00 | -68.00 |
| 51 | 666.60 | 135.00 | -68.00 |

```
   F   - I N T E R V A L -    CORE  T- %       TYPI- QAL  TEX-  GRAIN        PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    . DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                         H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY   O I       TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  T N T ( . ) D X TYPE  1  2 QM1  1  2 F F C A           1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
K  F                         ROCK   FM     RT    TM QM2 TX TX S C O O CHT       T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                         QUAL   AGE EN- Q LC- 3       3  4 O     /         2    AZM  RT H  H  H  H  H  H  H  H  H  H     1   1
Y  G                         DESIG      VIR   COL              R     C               STRUCTUR-2 A  A  A  A  A  A  A  A  A  A     2   2

R SVY     0.00  585.00       DATA FROM GYROSCOPIC DIRECTIONAL SURVEY.  THIS DATA IS ASSUMED
R SVY     0.00  585.00       TO BE CORRECT AND MOST ACCURATE SO IT WILL BE USED TO PLOT
R SVY     0.00  585.00       DRILL SECTION.
R SVY   594.66  594.66       BEGINNING OF WEDGED HOLE B.
R SVY     0.00    0.00       HALL AND ROWE STEEL WEDGE, PUT IN BLIND.  THE PURPOSE OF THI
R SVY     0.00    0.00       WEDGE WAS TO GO THROUGH THE ORE ZONE A SECOND TIME AND TRY A
R SVY     0.00    0.00       GET BETTER RECOVERY.
R SVY   594.66  669.04       SPERRY SUN SINGLE-SHOT DATA WILL BE USED TO COMPLETE THE SURVEY
R SVY   594.66  669.04       DATA FOR PLOTTING PURPOSES SINCE THE BOTTOM PART OF THE HOLE
R SVY   594.66  669.04       WAS NOT GYRO LOGGED.

/         0.00  594.66 594.66          MISS                                P
L

/       594.66  597.41   2.75          LOST                                P
L
R       594.66  597.41       REAMED FOR HALL AND ROWE STEEL WEDGE.

/       597.41  598.70   1.29          ARSN SF     SN3 BD BD L C 0 4 34    P  1 BD      85                    L(
L                                        4A         LM
R       597.41  598.70       UNIT CONTAINS A LARGE AMOUNT OF SAND WHICH DOESN'T GENERALLY
R       597.41  598.70       OCCUR IN DISCRETE BEDS TYPICAL OF ARSN IF.   UNIT IS ESSENTIALLY
R       597.41  598.70       A SANDY ARGILLITE.  BEDDING IS SOMEWHAT IRREGULAR + COMMONLY
R       597.41  598.70       COMPRISES ELONGATE DISCONTINUOUS + LENTICULAR MASSES OF SANDY
R       597.41  598.70       ARGILLITE SEPARATED BY CLAY.  THESE SANDY LENSES TEND TO BE
R       597.41  598.70       CLOSELY PACKED.  TEXTURE APPEARS TO SUGGEST INCIPIENT SLUMPING
R       597.41  598.70       OF SANDY ARGILLITE UNIT.  CORE:  BDG ANGLE AS MEASURED FROM LONG
R       597.41  598.70       AXES OF SAND-RICH LENSES, PARALLELS THAT MEASURED FROM
R       597.41  598.70       ESSENTIALLY UNDISTURBED BEDS.  INTV IS MODERATELY TO HIGHLY
R       597.41  598.70       SILICIFIED.

/       598.70  602.72   4.02          BRHM SF CR +C  B+           NOZ   P                  <-          L+    L)    L+
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM OM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                          R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R        598.70  602.72      INTV CONSISTS PRED OF ARGL FRAGS IN A CALCAREOUS CLAY MTX.
R        598.70  602.72      PYRITE COMMONLY OCCURS SISSEM THROUGHOUT THIS MTX.  MINOR CHT
R        598.70  602.72      AND UP TO 10% LMSX FRAGS ARE PRESENT.  CHERT FRAGMENTS ARE
R        598.70  602.72      SLIGHTLY CALCAREOUS AND HENCE RELATIVELY SOFT.  THEY ARE
R        598.70  602.72      REPLACED BY PYRITE.  GL WAS IDENTIFIED IN ONE INSTANCE IN THE
R        598.70  602.72      CORE OF A CHT CLAST.  FROM 598.85 TO 599.10M IS A FRAGMENT OF
R        598.70  602.72      INTERLAMINATED ARGL AND CHERT.  CHERT LAM CONTAIN PYR.  INTV IS
R        598.70  602.72      MOD TO HIGHLY SILICIFIED.  A FRAG OF LMSX IS REPEATED BELOW.

/ FRG    600.75  601.33   0.58            X LMSX SL GL CH1 LM LC                R                          L3     L1     L2
L                                               5U CB                                                                     L2
R        600.75  601.33      A FRAG OF LMSX WITHIN ABOVE BRHM FRAGMENT IS HIGHLY CALCAREOUS.
R        600.75  601.33      BOG IS SLIGHTLY DISRUPTED AND CONVOLUTE.  BARITE BANDS HAVE
R        600.75  601.33      LOCALLY UNDERGONE TENSION PARTING POSSIBLY DUE TO SLUMPING.
R        600.75  601.33      FRACTURES HAVE BEEN INFILLED WITH GL (REMOBILIZATION).

/        602.72  604.25   1.53              BRPM SF SL SN4 ST            L02   P                V*                 #)
L                                                7A     S*+       3      0 KM2                                        #+
R        602.72  604.25      A BRECCIA CONTAINING GENERALLY PEBBLE SIZE FRAGMENT OF CHT, ARGL
R        602.72  604.25      AND MINOR SULFIDE (ESPECIALLY SL) IN A MTX OF CHT SAND AND CLAY.
R        602.72  604.25      HIGHLY SILICIFIED.  PYR OCCURS DISSEM THROUGHOUT MTX.  SL OCCURS
R        602.72  604.25      AS BLEBS AND SMALL GRAINS WITHIN THE MTX.  MOST OF THESE ARE
R        602.72  604.25      PROBABLY FRAGS, ALTHOUGH SOME MAY BE DUE TO REPLACEMENT.  SL
R        602.72  604.25      ALSO OCCURS REPLACING CHT CLASTS.

/        604.25  609.60   5.35              BRHM SF SL S*) ST            OS8   P                V+          L(     D)     L(
L                                                4A GL        3         LM=                                              L(
R        604.25  609.60      INTV IS IMMEDIATE HANGINGWALL OF SZ#1 AND IS VERY HIGHLY
R        604.25  609.60      SILICIFIED.  SL+GL OCCUR PRINCIPALLY AS LAM WITHIN SULFIDE
R        604.25  609.60      FRAGMENTS.  THESE FRAGS ARE PARTICULARLY CONCENTRATED BTWN
R        604.25  609.60      604.25 AND 605M.  PYRITE OCCURS IN SULFIDE FRAGS, REPLACING CHT
R        604.25  609.60      FRAGS, AND IN THE MTX BTWN BRECCIA FRAGMENTS.  CHT IS
R        604.25  609.60      CONCENTRATED BTWN 606.93 AND 607.10M.  PYR IS PARTICULARLY
R        604.25  609.60      CONCENTRATED IN BOTTOM 0.1M. OF INTV.
R US1    609.60  609.60      CORE RECOVERY IN SZ#1 IS VERY POOR (15% OF OVERALL) WHICH MAKES
R        609.60  609.60      LOGGING & DESCRIPTION HIGHLY INTERPRETIVE.  INTERVALS OF AS MUCH
R        609.60  609.60      AS 6M HAVE 0% RECOVERY.  MUCH OF THE CORE WHICH WAS RECOVERED
R        609.60  609.60      HAS CLEARLY UNDERGONE PREFERENTIAL LEACHING, POSSIBLY OF
R        609.60  609.60      CARBONATES (?).  THIS LEACHING HAS LOCALLY RESULTED IN A VUGGY
R        609.60  609.60      TEXTURE.  IT CAN BE INFERRED THAT SZ#1 HAS BEEN CUT BY A MAJOR
R        609.60  609.60      FAULT WHICH BRECCIATED THE ROCK AND PERMITTED GROUNDWATER ACCESS
R        609.60  609.60      (AND HENCE LEACHING).  IT CAN BE INFERRED FROM AVAILABLE CORE
R        609.60  609.60      THAT THE UPPER PART OF THE ZONE (609.60 - 616.31) IS SULFIDE
R        609.60  609.60      RICH (3% RECOVERY) AND THE LOWER PART (616.31 - 629.05) IS A
R        609.60  609.60      CHT-BARITE FACIES (LOW GRADE), WITH SLIGHTLY HIGHER CORE
R        609.60  609.60      RECOVERY (12%).

K US1    609.60  609.60   0.00

/        609.60  611.12   1.52              LOST                         P
L
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       609.60  611.12      0% RECOVERY.

/       611.12  612.65   1.53            BNSX SL GL     BN LM              P                          L=     L3     L2
L                                           4U PY     SS LC                                                        L3
R       611.12  612.65      BEDDING IS HIGHLY CONVOLUTE, DISCONTINUOUS & LOCALLY BRECCIATED,
R       611.12  612.65      PROBABLY DUE TO SLUMPING.  CORE RECOVERY IS POOR (29%) AND CORE
R       611.12  612.65      IS LEACHED AND VUGGY.  MINOR PB OXIDE (MINIUM) IS DEVELOPED
R       611.12  612.65      LOCALLY IN VUGS.  AN UNIDENTIFIED LIGHT GREEN MINERAL (SOFT,
R       611.12  612.65      WITH GRANULAR TEXTURE) IS ALSO PRESENT IN MINOR AMOUNTS IN VUGS
R       611.12  612.65      POSSIBLY SERICITE).

/       612.65  613.26   0.61            BNSX SL GL     BN LM              P                          L=     L3     L2
L
R       612.65  613.26      CORE VUGGY WITH POOR RECOVERY (18%).

/       613.26  614.78   1.52            LOST                              P
L
R       613.26  614.78      0% RECOVERY.

/       614.78  616.31   1.53            MSSX GL SL                        P                          P1     P1     P+
L                                           4U BA                                                                    P3
R       614.78  616.31      LOGGING HIGHLY INTERPRETIVE AS INTV IS ONLY REPRESENTED BY 2
R       614.78  616.31      PEBBLE-SIZED PIECES OF CORE WHICH ARE HIGHLY LEACHED AND POROUS.
R       614.78  616.31      RELIC MINERALS ARE DK BN SL PYR BA AND LESSER GL WHICH IS HIGHLY
R       614.78  616.31      OXIDIZED.  A SOFT, LIGHT GN GRANULAR MINERAL (SERICITE ?) IS
R       614.78  616.31      COMMON IN VUGS.  PERCENTAGES GIVEN ABOVE TAKE VOID SPACE INTO
R       614.78  616.31      ACCOUNT IE % ARE OF ENTIRE ROCK PRIOR TO LEACHING (OF GANGUE ?
R       614.78  616.31      MINERALS).  ASSAYS SHOULD BE SOMEWHAT HIGHER THAN THESE
R       614.78  616.31      ESTIMATES, AS THE SAMPLES, POST-LEACHING, ARE APPROX. 80% SL.

/       616.31  617.83   1.52            BNSX BA        LM //              P  1                       L8     D(     D(
L                                           8Y                                                                       L/
R       616.31  617.83      POOR RECOVERY (8%) - RUBBLY-HENCE CAB COULD NOT BE MEASURED.

/       617.83  619.35   1.52            LMSX BA PY     LM //              P  1 BD      50            L9     L1     L=
L                                           8A                                                                       D*
R       617.83  619.35      POOR RECOVERY (8%)

/       619.35  620.88   1.53            LMSX BA GL     LM //              P  1 BD      05            L9     D+     L1
L                                           7A                                                                       D+
R       619.35  620.88      INTV CONTAINS APPROX 1% SCATTERED SMALL (^1MM) GRAINS OF A SOFT
R       619.35  620.88      GREEN MATERIAL.  THESE TEND TO BE PELLETAL OR CIRCULAR, BUT MAY
R       619.35  620.88      BE TABULAR AND ANGULAR - POSSIBLY ALTERED (CHLORITIZED/
R       619.35  620.88      SERICITIZED ?)  ARGILLITE FRAGMENTS - ESSENTIALLY CLAY MINERALS.

/       620.88  626.97   6.09            LOST                              P
L
R       620.88  626.97      0% RECOVERY.

/       626.97  627.58   0.61            LMSX       CH8 LM //              P  1                              D.
L                                                                                                                L1
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       626.97  627.58       POOR RECOVERY (7%).  VERY RUBBLY CORE.  ALTERNATING BANDS OF
R       626.97  627.58       SALMON-COLOURED (SL-RICH) AND LT GY CHT.

/       627.58  629.10   1.52            BNSX BA GL CH7 LC BD                P  3                          L1     L*     L=
L                                                7A SF     SS                                                                L)
R       627.58  629.10       PRED ALTERNATING BANDS OF CHT, ARG CHT AND POSSIBLY HIGHLY
R       627.58  629.10       SILICIFIED ARGL.  BEDS ARE CONVOLUTE AND LOCALLY BRECCIATED.
R       627.58  629.10       GL OCCURS LOCALLY IN BRECIA INTERSTICES (REMOBILIZED ?).  BASAL
R       627.58  629.10       PART OF INTV APPEARS TO BE PARTICULARLY ARGILLACEOUS AND IS
R       627.58  629.10       PROBABLY GRADATIONAL WITH UNDERLYING ARGL.

/       629.10  631.76   2.66            ARGL SF    SI=       0 3 = 3        P  1 BD      70 V=          <*     L-
L                                                5A    CH)                                                                D.
R       629.10  631.76       VERY HIGHLY SILICIFIED.  BOTTOM 0.2M CONTAINS THIN CHT-PYR BANDS
R       629.10  631.76       AND IS GRADATIONAL INTO UNDERLYING UNIT.
R       631.76  631.76       EXCELLENT CORE RECOVERY CORE GENERALLY VERY COMPETENT.

/       631.76  634.64   2.88            BNSX BA GL CH1 LM LC                P  1 BD     T70            L7     L=     L1
L                                                CB                                BD     B65                                L1
R       631.76  634.64       MODERATELY CALCAREOUS.  BDG MODERATELY CONVOLUTE BECAUSE OF
R       631.76  634.64       SLUMPING.  HENCE CAB VARIES.  GL TENDS TO OCCUR IN BEDS UP TO
R       631.76  634.64       3CMS (RELATIVELY MASSIVE).  SL+PYR TEND TO OCCUR IN LESS MASSIVE
R       631.76  634.64       FORM, DISSEM WITHIN BARITE BANDS.

/       633.90  633.98   0.08          X BNSX BA GL CH1 LM LC                R  1 BD     T32            L7     L=     L1
L

/       634.64  637.69   3.05            BNSX GL SL CH7 LC SS                P  2 BD     T75            L1     D-     L=
L                                                CB     LM                                B85                                L1
R       634.64  637.69       SLIGHTLY CALCAREOUS.  ALTERNATING YW AND LT-M GY CHT BANDS.
R       634.64  637.69       BANDS ARE CONVOLUTE, DISCONTINUOUS AND LOCALLY BRECCIATED,
R       634.64  637.69       PROBABLY DUE TO SLUMPING.  GL COMMONLY OCCURS IN BRECCIA
R       634.64  637.69       INTERSTICES (REMOBILIZED).

/       637.69  638.69   1.00            BNSX SL GL CH9 BD                   P  2 BD      80 <+         L=     L-     L)
L                                                5A                                                                L+
R       637.69  638.69       ESSENTIALLY CHT WITH LOCAL BARITE-SULFIDE LAM.  LOCALLY
R       637.69  638.69       BRECCIATED.  INTERSTICES INFILLED WITH SL+PYR.  QTZ-FILLED
R       637.69  638.69       TENSION GASHES ARE COMMON.

/       638.69  640.14   1.45            BNSX GL SL CH8 BD LM                P  3 BD     T45            L=     L+     L=
L                                                CB     LC SS                             B60                                L1
R       638.69  640.14       BANDS & LAM TEND TO BE WAVY, CONVOLUTE & DISCONTINUOUS;  HENCE
R       638.69  640.14       CAB VARIES.  LOCALLY BRECCIATED.  SULFIDES TEND TO BE INTIMATELY
R       638.69  640.14       INTERGROWN WITH CHT.  GL OCCURS LOCALLY AS LAM & AS BLEBS WITHIN
R       638.69  640.14       CHT.  PYR & SL OCCUR LOCALLY IN BRECCIA INTERSTICES.  AT 639.30M
R       638.69  640.14       IS A BAND OF DISSEM DK GRAINS APPROX 2MM IN DIAMETER.  THESE ARE
R       638.69  640.14       ANGULAR, SILICIOUS AND EXHIBIT RHOMBIC AND HEXAGONAL FORMS.  THE
R       638.69  640.14       VARIETY OF SHAPES APPEARS TO BE DUE TO CROSS-CUTTING RANDOMLY
R       638.69  640.14       ORIENTED QTZ XLS.  THE FACT THAT QTZ HAS HAD THE FREEDOM TO FORM
R       638.69  640.14       EUHEDRAL XLS MAY HOLD GENETIC IMPLICATIONS WHICH CAN BE
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       638.69  640.14      INVESTIGATED LATER.

/       640.14  643.17   3.03            CHER        CH9 ST BD              P  3 BD     T20 <=                L)
L                                            6A         LM                              B80                          L)
R       640.14  643.17      CHT WITH MINOR LOCAL BARITE-SULFIDE BANDS.  CHT IS LOCALLY
R       640.14  643.17      BRECCIATED & INFILLED WITH MNR PYR & SL.  TENSION GASHES
R       640.14  643.17      INFILLED WITH QTZ ARE COMMON.

/       643.17  645.42   2.25            BNSX SL     CH8 BN LM              P  2 BD     T60                   D-
L                                                       LC SS                           B80                          L1
R       643.17  645.42      BANDS ARE CONVOLUTE, DISCONTINUOUS, LOCALLY BRECCIATED &
R       643.17  645.42      INFILLED WITH GY CHT.

/       645.42  646.50   1.08            CHER            BN LM              P  2 BD      80                   L*
L                                            7A

/       646.50  648.27   1.77            BNSX BA SL CH3 BN LM               P  1 BD     T60             L5    L)    L)
L                                                                                       B60                          L1
R       646.50  648.27      RELATIVELY UNDISTURBED BDG.

/       648.27  649.05   0.78            BNSX BA SL CH1                     P  2 BD      80             L8
L                                                                                                                    L1
R       648.27  649.05      SLIGHTLY CONVOLUTE & DISRUPTED BDG.  VERY SLIGHTLY CALCAREOUS.

/       649.05  650.00   0.95            LMSX BA SL      LM BN              P  1 BD      80             L9           L+
L                                                                                                                    L1
R       649.05  650.00      BARITE WITH ALTERNATING WHITE & YELLOW BANDS.  YELLOW BANDS ARE
R       649.05  650.00      SL-RICH.

/       650.00  655.40   5.40            BNSX SL PY CH4 LM BN               P  1 BD     T80 <(          L4    L1    L+
L                                                BA     LC ST                                                        L1
R       650.00  655.40      VERY CALCAREOUS.  BDG IS CONVOLUTE, DISRUPTED, AND BRECCIATED,
R       650.00  655.40      PARTICULARLY NEAR THE BASE.  INTV IS LOCALLY VUGGY, WITH DRUSY
R       650.00  655.40      QTZ IN VUGS.  BOTTOM 20CMS OF INTV BECOMES ARGILLACEOUS,
R       650.00  655.40      GRADATIONAL WITH UNDERLYING UNIT.

K LS1   655.40  655.40   0.00

/       655.40  658.17   2.77            ARGL SF SL CH2 LM LC 0 3 = 3       P  1 BD     T60 <)                <=    D-
L                                            5A PY                                      B70                          L+
R       655.40  658.17      INTV IS IMMEDIATE FOOTWALL OF SZ-2 AND IS GRADATIONAL TO
R       655.40  658.17      UNDERLYING ARGILLACEOUS ROCKS.  THIS GRADATION IS BROUGHT ABOUT
R       655.40  658.17      BY THE OCCASIONAL PRESENCE OF MINERALIZED CHT BANDS & LAM WITHIN
R       655.40  658.17      THE ARGL.  INTV IS VERY HIGHLY SILICEOUS.  LAMINAE ARE CONVOLUTE
R       655.40  658.17      SO THAT CAB VARIES.

/       658.17  669.04  10.87            BRPM SF PY *S=                OR7  P                <)                D+
L                                            4A                2    = 0 JL+
R       658.17  669.04      QTZ VNS CONCENTRATED IN UPPER 2M OF INTV.  IN GENERAL
R       658.17  669.04      SILICIFICATION RANGES FROM INTENSE AT TOP OF INTV TO MODERATE AT
R       658.17  669.04      THE BASE.  MTX IS CLAY WITH SOME SAND.
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# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81CWH068 | COLLAR ELEVATION: | 1275.94 | AZIMUTH( DEG ) : | 0.00 | GEOLOGGED BY : | DWB + |
| TOTAL DEPTH/LENGTH : | 726.34 | NORTHING(- IF S): | 7002472.00 | VERTICAL ANGLE : | -90.00 | DATE (YY/MM/DD): | 810000 |
| CORE/HOLE DIAMETER : | HQNQ | EASTING (- IF W): | 436496.25 | CO-ORD SYSTEM : | UTM | PROJECT NUMBER : | J-S3 |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 30.00 | 146.90 | -89.47 |
| 2 | 61.00 | 169.10 | -87.40 |
| 3 | 91.00 | 151.30 | -85.47 |
| 4 | 122.00 | 131.50 | -86.75 |
| 5 | 152.00 | 124.20 | -86.42 |
| 6 | 183.00 | 121.80 | -86.10 |
| 7 | 218.24 | 124.90 | -85.70 |
| 8 | 231.34 | 126.00 | -85.50 |
| 9 | 251.46 | 141.00 | -85.50 |
| 10 | 287.12 | 160.00 | -84.25 |
| 11 | 304.80 | 168.00 | -82.75 |
| 12 | 326.14 | 170.00 | -80.50 |
| 13 | 346.86 | 170.00 | -77.75 |
| 14 | 382.83 | 168.00 | -73.25 |
| 15 | 395.63 | 169.00 | -72.67 |
| 16 | 408.12 | 168.00 | -72.25 |
| 17 | 435.56 | 164.50 | -70.25 |
| 18 | 454.15 | 164.00 | -67.67 |
| 19 | 466.34 | 163.50 | -67.34 |
| 20 | 481.58 | 162.00 | -64.50 |
| 21 | 494.69 | 162.00 | -64.00 |
| 22 | 508.71 | 162.00 | -62.50 |
| 23 | 523.95 | 161.50 | -61.25 |
| 24 | 538.89 | 161.50 | -60.00 |
| 25 | 557.78 | 161.50 | -59.00 |
| 26 | 575.77 | 160.00 | -59.00 |
| 27 | 581.86 | 161.00 | -58.75 |
| 28 | 593.45 | 160.00 | -58.25 |
| 29 | 594.06 | 160.00 | -58.50 |
| 30 | 606.25 | 160.00 | -58.50 |
| 31 | 618.44 | 160.00 | -58.00 |
| 32 | 630.63 | 160.00 | -59.00 |

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                    33          642.82          161.00          -57.50
                    34          655.02          161.50          -57.25
                    35          667.21          162.00          -57.00
                    36          679.40          162.00          -57.00
                    37          691.50          163.00          -56.75
                    38          703.78          163.00          -56.75
                    39          715.98          163.00          -56.34
                    40          725.12          163.50          -55.50

   F   - I N T E R V A L -    CORE  T- %      TYPI- QAL  TEX-  GRAIN       PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                  H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN - - - -
Y  G  F R O M - T O -  I N T (  . )  D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3      3  4 O     /          2    AZM  RT H  H  H  H  H  H  H  H  H  H   1   1
Y  G                          DESIG      VIR   COL            R     C            STRUCTUR-2  A  A  A  A  A  A  A  A  A  A    2   2

R SVY     0.00  218.24       READINGS FOR UPPER PART OF HOLE FROM GYROCOMPASS SURVEY OF
R SVY     0.00  218.24       DDH 81-68A.  REMAINDER FROM SPERRY SUN MULTI-SHOT.
R SVY     0.00  218.24       THESE SURVEY DATA (S000-S040) SHOULD BE USED FOR PLOTTING
R SVY     0.00  218.24       PURPOSES.
R SVY   218.24  218.24       BEGINNING OF WEDGED HOLE C.
R SVY   218.24  218.24       HALL AND ROWE STEEL WEDGE - FULL AZIMUTH RIGHT.
R SVY    99.97   99.97       HALL AND ROWE STEEL WEDGE - FULL STEEPENING.
R SVY   218.24  726.34       SURVEY DATA FROM SPERRY SUN MULTI-SHOT.
R SVY   235.31  235.31       CLAP RETRIEVABLE WEDGE -    FULL AZIMUTH TO RIGHT.
R SVY   255.12  255.12       CLAP RETRIEVABLE WEDGE -    FULL AZIMUTH TO RIGHT.
R SVY   270.56  270.56       CLAP RETRIEVABLE WEDGE -    FULL AZIMUTH TO RIGHT.
R SVY   288.65  288.65       CLAP RETRIEVABLE WEDGE -    HALF AZIMUTH TO RIGHT
R SVY   288.65  288.65                                   AND HALF FLATTENING.
R SVY   305.71  305.71       CLAP RETRIEVABLE WEDGE -    FULL FLATTENING.
R SVY   328.88  328.88       CLAP RETRIEVABLE WEDGE - DIP 1.50 TO FLATTEN.
R SVY   413.92  413.92       CLAP RETRIEVABLE WEDGE - DIP 1.50 TO FLATTEN.
R SVY   437.99  437.99       CLAP RETRIEVABLE WEDGE - DIP 1.50 TO FLATTEN.
R SVY   467.56  467.56       CLAP RETRIEVABLE WEDGE - DIP 1.50 TO FLATTEN.
R SVY   726.34  726.34       END OF WEDGED HOLE C.
R SVY   351.13  351.13       CLAP RETRIEVABLE WEDGE - DIP 1.50 TO FLATTEN.

/         0.00  217.32 217.32            MISS                                P

/       217.32  220.55   3.23            ARSI       SN1 BD SS 0 3 1 3        P  2 BD     T55 <.                D.
L                                            3A                                          B50
R       217.32  220.55       BDG OCCASIONALLY SLIGHTLY DISRUPTED BY SOFT SED SLUMP.

/       220.55  235.75  15.20            BRHT       *C= B* F*          OT6   P
L                                            5A    *S+        2   +   MO4

/       235.75  256.95  21.20            BRPM       *C* F* B*          QT4   P                                R.
L                                            4A    *S-        4 - - O LO2
R       235.75  256.95       MNR PYR ASSOCIATED WITH CHT CLASTS.

/       252.38  252.60   0.22          X SAND           G; BD 3 J 5 K        R  2 BD     U45
L                                            7A              6
R       252.38  252.60       NARROW SAND ZONE-IN PLACE-GRADES UPWARD INTO OVERLYING
R       252.38  252.60       CLAY-RICH BRPM MTX.

/       256.95  262.43   5.48            BRHM       *S+                PS8   P                                D.
L                                            4A              5   +   LL)
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       262.43  273.30       2 LARGE (10-20 CM) SS+PEBBLY SS FRAGS.

/       273.30  301.75  28.45            BRHM                          QT9   P                                  D-
L                                            4A     *S)        4   )   KN*
R       273.30  301.75       LOCALLY BRPM.

/       297.40  298.80   1.40          X FAUL CR GR                        R
L                                            4A
R       297.40  298.80       RUBBLY INTERVAL WITH GRAPHITIC SHEARS-NO FAUL GG.

/       300.53  301.75   1.22          X FAUL CR GR                        R
L                                            4A
R       300.53  301.75       RUBBLY INTV WITH GRAPHITIC SHEARS-NO FAUL GG.

/       301.75  323.55  21.80            BRHT                          QS9   P                                  D-
L                                            4A     *S*        3 ) *   L01
R       301.75  323.55       LOCALLY BRPM.

/       301.75  302.60   0.85          X FAUL                              R
R       301.75  302.60       RUBBLY-CORE WITH GRAPHITIC SHEARS.

/       306.93  309.96   3.03          X SAND           BD G; I K 6 N   1  R  3        U44 <-                   D-
L                                            7A                 5         9
R       306.93  309.96       3 ZONES OF CHT SAND RANGING FROM 50CMS TO 1M.ZONES ARE SEPARATED
R       306.93  309.96       BY SHALE PARTINGS. BOTTOM ZONE COMPRISES SEVERAL CYCLES OF
R       306.93  309.96       INTBD FINE & COARSER SAND.MIDDLE ZONE (50 CMS)EXHIBITS GRDG FROM
R       306.93  309.96       BRHT AT BASE TO SAND AT TOP. UPPER ZONE EXHIBITS CRUDE BEDDING
R       306.93  309.96       WHICH IS ALMOST PARALLEL TO CORE AXIS. UPPER ZONE(306.93-308.48,
R       306.93  309.96       RECOV APPOX. 1M) MAY BE A LARGE CLAST. LOWER 2 ZONES ARE
R       306.93  309.96       DEPOSITIONAL.

/       323.55  351.13  27.58            BRHM                          UV9   P                                  <-
L                                            4A                 4       LO)                                          R.
R       323.55  351.13       TRACE SL IN CORE OF CHT CLAST.

/       325.90  327.00   1.10          X FAUL                              R
L                                            4A
R       325.90  327.00       RUBBLY INTV WITH GRAPHITIC SHEARS.

/       327.50  328.88   1.38          X BRXX                 J M 4 0 MO+  R                <-       <-        D.
L                                            6A                 4     0 JM9
R       327.50  328.88       CONSISTS PREDOMINANTLY OF SUBRD-SUBANG CHT FRAG IN A MTX OF
R       327.50  328.88       CLY & CHT SND. MINOR ARGL FRAGS.

/       348.55  350.25   1.70          X BRPM                          PQ7   R
L                                            5A                 6       JN3
R       348.55  350.25       ARGL FRAGS IN A MTX OF CHT SAND.

/       351.13  362.94  11.81            BRHT                          PU5   P                <.                D.
L                                            5A     *S)        3   )   LN4

/       356.30  360.50   4.20          X BRPM                          OR2   R                <-
L                                            6A                 4       JM8
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       356.30  360.50      ESSENTIALLY A PEBBLY CHT SAND WITH SCATTERED ARGL FRAGS.

/ FRG   361.40  362.94   1.54          X ARGL        SN= BD     0 2 = 2        R  1 BD      T75 <.        <.
L                                                 4A                                          B75
R       361.40  362.94      TOP OF THICK SEQUENCE OF DEBRIS FLOWS CHARACTERIZED BY
R       361.40  362.94      CGCP CLASTS.

K UDF   362.94  362.94   0.00

/       362.94  373.90  10.96            BRHT                          RS8   P                                  D.
L                                                 5A     *S*        2 1 *   LN1
R       362.94  373.90      LOCAL BRPM.
R       362.94  373.90      INTV BTWN 363.00 & 365.76M SLIGHTLY RUBBLY WITH LOCAL
R       362.94  373.90      SHEARING-MINOR FAULT.

/       373.90  395.30  21.40            BRHM                          SU9   P                                  D.
L                                                 4A     *S*        3 + *   MO)
R       373.90  395.30      SLIGHTLY DISRUPTED ARST WITH MINOR CHT & CGCP FRAGS-CONTAINS 2
R       373.90  395.30      LARGE CGCP FRAGS 30-40 CMS IN LENGTH.

/       373.90  381.40   7.50          X FAUL GR                             R
L                                                 4A
R       373.90  381.40      RUBBLY INTV, GRAPHITIC; LOCALLY SHEARED.

/       395.30  404.06   8.76            BRHT        *S- F*             PR5   P                                  D*
L                                                 6A     *C-        2   -   MO3
R       395.30  404.06      LOCALLY BRPM.

/       404.06  411.80   7.74            CGBR        *S* F* H* J M 6 P LO1   P                        D-
L                                                 7A     *C=        5   * O MP8
R       404.06  411.80      UNIDENTIFIED CARBONATE OCCURS IN SMALL AMOUNTS IN MTX, AND
R       404.06  411.80      REPLACING ARGL CLASTS-POSSIBLY FE-RICH CALCITE. ARGL CLASTS ARE
R       404.06  411.80      SILICIFIED IN PART. CHT CLASTS ARE OCCASIONALLY BRECCIATED AND
R       404.06  411.80      INFILLED WITH LIGHT-COLORED CHT VEINS. CGL HAS A SANDY MTX.
R       404.06  411.80      406.06-407.52M FRAMEWORK-SUPPORTED;407.52-411.80M MTX-SUPPORTED.
R       404.06  411.80      UNIT REPRESENTS A DEPOSITIONAL EVENT - NOT A FRAGMENT.

/       411.80  419.10   7.30            BRHT                          OP8   P                <*                D*
L                                                 5A     *S+        3 + +   MO1
R       411.80  419.10      BTM 0.5M PRED CHT-GRADATIONAL INTO UNDERLYING UNIT.

K SIG   419.10  419.10   0.00

/       419.10  420.50   1.40            CGSN SF     *C) B*     J M 2 P MP2   P                <)        B=        D*
L                                                 6A                 6     O JN8
R       419.10  420.50      A DISTINCTIVE UNIT CONSISTING OF GENERALLY
R       419.10  420.50      WELL ROUNDED & OVOID PEBBLES OF ARGL (AND MINOR CHT) IN A
R       419.10  420.50      CHT SND MTX. MTX-SUPPORTED. SD OCCURS IN MTX AS IRREGULAR
R       419.10  420.50      BLEBS.
R LIT   419.10  420.50      MAT BE A GOOD MARKER BED BECAUSE OF DISTINCTIVE TEXTURE.
R LIT   419.10  420.50      UNCLEAR WHETHER THIS IS A FRAGMENT OR A TURBIDITE EVENT,
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       419.10  420.50      HOWEVER.

/       420.50  427.20   6.70            BRCG                          OP1   P                <*                D.
L                                     6A     *S1        3 5 1 C MO=
R       420.50  427.20      INTV IS V CHT-RICH. IT HAS BEEN INTERPRETED AS A BRHT WITH
R       420.50  427.20      ABNT CGCP AND PEBBLY SS FRAGS RANGING FROM A FEW TO 90 CMS.
R       420.50  427.20      SMALLER SND & CGL FRAGS CAN BE READILY IDENTIFIED. IT IS
R       420.50  427.20      DIFFICULT TO DETERMINE WHETHER LARGER CONGLOMERATIC INTVS ARE
R       420.50  427.20      FRAGMENTS OR ARE THE RESULT OF A TURBIDITE EVENT, HOWEVER.

/       427.20  441.15  13.95            BRPM                          PR2   P                                  D-
L                                     6A     *S(        2   (   KN6
R       427.20  441.15      CHT-RICH BRX WITH SAND & CLY-RICH MTX; V P SRT. SOME OF MORE
R       427.20  441.15      CONGLOMERATIC INTVS MAY BE FRAGS BUT THIS IS NOT CLEAR.
R       427.20  441.15      GENERALLY A CHT-RICH BRX CHARACTERIZED BY SAND-RICH MTX.

/       441.15  450.43   9.28             BRHT        *C* F*            PQ3   P                <+                D-
L                                     6A     *S)        2 2 )   MO3
R       441.15  450.43      INTV CHARACTERIZED BY ABNT CGCP & PEBBLY SS WITH FRAGS.

/ FRG   442.36  443.36   1.00           X CGCP                   J M 4 O LO9   R                                  D.
L                                     7A                4       O MN1
R       442.36  443.36      PROBABLE FRAG-BASAL CONTACT AMBIGUOUS.

/       445.60  447.75   2.15           X FAUL CR GR                          R
L                                     3A

/       450.43  453.00   2.57             SAND            BD    3 K 2 O LN)   P  2 BD     U55                    D-
L                                     6A     *S. SS G; 5    . ( 309                     B50
R       450.43  453.00      BOTTOM 40 CMS MASSIVE.
R       450.43  453.00      INTV COMPRISES ALTERNATING FINE AND COARSER SAND BEDS. NORMAL
R       450.43  453.00      GRADING IS DEVELOPED LOCALLY.
R       450.43  453.00      BEDDING IS LOCALLY SLIGHTLY CONVOLUTE AND APPEARS TO
R       450.43  453.00      HAVE  UNDERGONE SOFT SED DEFORMATION.
R       450.43  453.00      INTV BTWN 450.73 & 451.13 CONTAINS ABNT LRG CHT CLASTS (APPROX.
R       450.43  453.00      4.5 CMS) IN A SAND MTX AND IS THEREFORE CONGLOMERATIC.

/       453.00  456.25   3.25             BRHT                          NQ5   P                V-       V(        D.
L                                     5A                3 )     MO3
R       453.00  456.25      TOP 25 CMS OF INTV BECOMES SANDY-GRADATIONAL INTO OVERLYING
R       453.00  456.25      UNIT.

/       456.25  478.10  21.85             BRPM                          QU5   P                                  D-
L                                     4A     *S)        3 ( ) O J03
R       456.25  478.10      MTX IS CHT SAND AND CLAY.
R       456.25  478.10      BASE OF THICK SEQUENCE OF DEBRIS FLOWS CHARACTERIZED
R       456.25  478.10      BY CGCP CLASTS.

/ FRG   458.64  462.99   4.35           X ARSI CR GR SN2 LM    0 3 2 3       R                                  D(
L                                     4A
R       458.64  462.99      PROBABLE FRAGMENT. BDG EXHIBITS PRONOUNCED SLUMP CLEAVAGE;
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       458.64  462.99      ALSO LOCAL SMALL SCALE FOLDS. CORE TO BDG ANGLE VARIES WIDELY.
R       458.64  462.99      MINOR LOCAL SHEARING.

K LDF   478.10  478.10   0.00

/       478.10  490.12  12.02            BRHM CR GR                  TU9   P                V.       V.       D.
L                                          4A    *S-       5   -    KL-
R       478.10  490.12      A SLIGHTLY SLUMPED ARSI UNIT. 10-15% SND LAM. CORE TO BDG
R       478.10  490.12      ANGLES VARY MARKEDLY.
R       478.10  490.12      MINOR LOCAL GRAPHITIC SHEARS.

/ SHR   490.12  492.68   2.56            BRPM CR GR                  OP5   P                <=       <=
L                                          5A              3        LN2
R       490.12  492.68      RUBBLY INTV WITH LOCAL GRAPHITIC SHEARS
R       490.12  492.68      ABNT QTZ-CARB VEINING.

/ SHR   492.68  513.10  20.42            BRHM GR CR                  RT9   P                <(       <-       D(
L                                          4A    *S(       3 ) (    KM*
R       492.68  513.10      RUBBLY INTV WITH LOCAL GRAPHITIC SHEARS.
R       492.68  513.10      QTZ CARB VNS CONCENTRATED IN UPPER 50 CMS, CONTINUOUS WITH
R       492.68  513.10      THOSE IN OVERLYING UNIT.
R       492.68  513.10      FRAGS PRED ARGL FROM 492.68 TO 499.80 M; PRED ARSI FROM 499.80
R       492.68  513.10      TO 513.10 M.

/       503.60  504.14   0.54            X SAND          G; BD 0 K 1 L KI2   R  2 BD     T12 <*       <*       D)
L                                          5A              6 *   C 4K6
R       503.60  504.14      UNCLEAR WHETHER THIS IS A FRAGMENT OR A DEPOSITIONAL EVENT.
R       503.60  504.14      UPPER CONTACT IS PARALLEL TO BEDDING IN SAND, BUT OVERLYING
R       503.60  504.14      ARSI IS UNCONFORMABLE. BASAL CONTACT OF SAND IS IRREGULAR
R       503.60  504.14      AND POORLY DEFINED BECAUSE OF RUBBLY CORE. FAVOURED INTER-
R       503.60  504.14      PRETATION IS THAT THIS IS A TURBIDITE.
R       503.60  504.14      INTV CONTAINS APPROX 20% ARGL CLASTS.

/       513.10  531.00  17.90            ARSI CR    SN2 LM (L 0 3 2 3       P  1 BD     U40              V-    L*    V.
L                                          5A                                          B30
R       513.10  531.00      SAND/SILT LAMINAE INCREASE FROM APPROX 15% IN UPPER PART OF
R       513.10  531.00      INTV (513.10-523.10) TO 25% IN LOWER PART (523.10-531.00)
R       513.10  531.00      PYR OCCURS PRINCIPALLY AS DISSEM GRAINS IN SAND/SLT BANDS.
R       513.10  531.00      SAND/SLT BEDS ARE LOCALLY LENTICULAR.
R       513.10  531.00      1 CM QTZ-SID VNS AT 520.80 M, 529.80 M, AND 530.70 M. THESE
R       513.10  531.00      CONTAIN MNR GL AND PY.

/       531.00  544.25  13.25            BRHT CR GR                  ST9   P                >)                D*
L                                          4A              3 +      LO+
R       531.00  544.25      VERY ARSI-RICH BRECCIA, WITH 1 LRG CGCP CLAST NEAR BASE.
R       531.00  544.25      MTX IS IN PT PEBBLY MUDSTONE.
R       531.00  544.25      INTV IS LOCALLY RUBBLY, SLIGHTLY SHEARED, AND GRAPHITIC.

/ SHR   532.00  533.10   1.10            X FAUL GR                          R                >2
L                                          4A
R       532.00  533.10      MODERATELY RUBBLY INTV. LRG QTZ VN AT 532.75-532.90 M -
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q O  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       532.00  533.10      CONTAINS MNR PYR.

/       533.90  534.24   0.34          X SAND BD                3 J = J       R  2 BD      30 <)                D*
L                                            6A                7     C

/ FRG   542.50  542.82   0.32          X CGCP                   L N 5 O       R                                  D=
L                                            7A                3     C MO9

/       544.25  563.96  19.71            CGBR SF     *S- MX ST K M 6 O MN1   P                <)                D+
L                                            7A     *C) F* R* 3   - C MO9                                          R.
R       544.25  563.96      BOUNDARIES BTWN CLASTS ARE OCCASIONALLY SUTURED DUE TO
R       544.25  563.96      PRESSURE SOLUTION.
R       544.25  563.96      PYR IS LOCALLY QUITE CONCENTRATED & IN SOME CASES APPEARS TO
R       544.25  563.96      BE A CMT BTWN CGL CLASTS-PYR ALSO OCCURS ALONG STYLOLITES.
R       544.25  563.96      SL OCCURS IN MINOR AMNTS ASSOCIATED WITH WHITE CHT CLASTS
R       544.25  563.96      (REPLACEMENT)-OCCURS PARTICULARLY TOWARDS BASE OF INTV.

/       563.96  568.15   4.19            ARGL CR         MX     1 1   1       P                <)                D+
L                                            2A                9

/       563.96  568.15   4.19          2 BRPM                LC          KO2   R                <)                C=
L                                            3A                2 )     JK=
R       563.96  568.15      THE BRPM BEDS INTERCALATE WITH THE MASSIVE, CARBONACEOUS
R       563.96  568.15      ARGILLIC UNIT. BEDS RANGE FROM 2 TO 15 CMS. IN THICKNES. THE TOP
R       563.96  568.15      BEDS HAVE PYRITE FILLING THE INTERSTITIAL SPACES AS A
R       563.96  568.15      REPLACEMENT MINERAL.

/ SHR   568.15  575.72   7.57            BRHM GR                        MQ6   P                V)          <)    R+
L                                            3A                2       JL=                          <)
R       568.15  575.72      SLICKEN-SIDE SURFACES ALONG SHEARED CONTACTS ARE GRAPHITIC,
R       568.15  575.72      INDICATING POSSIBLE FAULT MOVEMENT. THE BOTTOM OF THE P.G.I.
R       568.15  575.72      GRADES INTO A DARK CARBONACEOUS PEBBLY MUDSTONE.

/       575.72  583.37   7.65            SAND SF         G: MX 1 3 8 5       P    LM     U45 <(                R=
L                                            5A CR      G; LM 8                                                      B*
R       575.72  583.37      THE SANDSTONE IS SILICIOUS WITH A CARBONACEOUS ARGILLITE
R       575.72  583.37      FILLING THE INTERSTITIAL SPACES BETWEEN THE COARSE SAND-SIZED
R       575.72  583.37      GRAINS. THE SANDSTONE IS GRADED WITH THICK BRECCIA
R       575.72  583.37      SEQUENCES. SEVERAL GRADING CYCLES WERE OBSERVED IN THIS
R       575.72  583.37      INTERVAL, TYPIFYING A TURBIDITE SEQUENCE, BOTH REVERSE AND
R       575.72  583.37      NORMAL GRADING OCCUR.

/       575.72  583.37   7.65          3 BRHT SF     *C+ B* G;         KP3   R                <(                R=
L                                            5A         F*    3       KN3                                            R(
R       575.72  583.37      THE BRECCIA BEDS VARY FROM MATRIX TO FRAMEWORK SUPPORTED. THE
R       575.72  583.37      GARDE INTO THE SANDSTONE BEDS AND RANGE FROM 1 METRE TO .4
R       575.72  583.37      METRES IN THICKNESS. SPHALERITE IN THE SANDSTONE OCCURS IN
R       575.72  583.37      BLEBS, AND ALONG SMALL QUARTZ FRACTURES WITHIN THE CHERT
R       575.72  583.37      BRECCIA.

/       583.37  688.89 105.52            BRHT                           MU8   P                                  R=    R*
L                                            3A                2       KQ1                                            H*
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM GM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                          R N D  AGE Ev RQ LC TM GM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R        583.37  688.89       REPLACEMENT OF CHERT BY PYRITE, GALENA AND SPHALERITE IS
R        583.37  688.89       COMMONLY OBSERVED. IN SOME CHERT FRAGMENTS GALENA REPLACES THE
R        583.37  688.89       CENTRE, WHEREAS PYRITE IS SPECIFIC TO THE OUTER RIM. SPHALERITE
R        583.37  688.89       IS COLOURED DARK REDDISH-BROWN.
R        583.37  688.89       AN UNKNOWN GREEN MINERAL OCCURS WITH BARITE CRYSTALS IN A VEIN
R        583.37  688.89       ASSOCIATED WITH THE SILTY ARGILLITE BRECCIA.
R  SPC   583.37  688.89       SAMPLE D.G.268 TAKE AT 285.45 METRES.

/        588.89  601.98  13.09            CGBR        *S) R* F*          LO2   P                <+                   B*
L                                            5A     *C+ H* CC 3   ) C LO6                                  R=     R)
R        588.89  601.98       THE BOUNDARIES BETWEEN CHERT CLAST OCCASSIONALLY BECOME
R        588.89  601.98       FRAGMENTED. THE CLASTS ARE MODERATELY ANGULAR TO INTERMEDIATE.
R        588.89  601.98       NEAR THE BOTTOM OF THIS INTERVAL THE CGBR BECOMES MATRIX
R        588.89  601.98       SUPPORTED, FOR THE LAST 50 CMS.

/        590.40  592.45   2.05          9 CGSN        SN5    R*          KO1   R                <)          <(     R=     B*
L                                            4A     *C) F* B*        O LP3                                                R)

/        598.98  601.02   2.04          9 BRHM SF     SI5                NO5   R    V/       40 <=                  R=     <(
L                                            6A                                                      <+                     <*
R        598.98  601.02       THE ARGILLIC BRECCIA IS SURROUNDED BY A SILTSTONE MATRIX.

/        601.98  603.13   1.15             BRHM SF PY                    LP5   P                <=          B=         B1     B)
L                                            6A                  3                                                          B*
R        601.98  603.13       PYRITE OCCURS AS A REPLACEMENT MINERAL IN THE ARGILLITE MATRIX,
R        601.98  603.13       AND AS .7 CMS BANDS WITHIN THE ARGILLIC BRECCIA.

K  US1   603.13  603.13   0.00

/        603.13  605.30   2.17             SXFG SF PY *C1     R*          LP3   P                <=          B1         R1     R+
L                                            5A         H*     2 )      KO1                                                L+
R        603.13  605.30       GALENA AND SPHALERITE ASSOCIATE WITH CARBONATE BLEBS IN THE
R        603.13  605.30       MATRIX. SULPHIDES OCCUR PREDOMINANTLY AS HALO OR CORE
R        603.13  605.30       REPLACEMENT OF ARGILLITE AND CHERT FRAGMENTS.

/        604.60  605.30   0.70          9 SXFG BA PY *C1 VG MX          LP3   R                M4          B1 B=      R1     R+
L                                                                                                                           L+
R        604.60  605.30       THIS INTERVAL IS EXTREMELY BROKEN, WITH BARITIC BLEBS THAT
R        604.60  605.30       AVERAGE 2-3 MM. IN SIZE.

/        605.30  606.61   1.31             FGSX CB PY CH= MX BN                P                B= D)       Q3 <=      M3     M2
L                                            5Y                                                                                Q=
R        605.30  606.61       DISCONTINUOUS LENSES OF SPHALERITE AND MASSIVE PYRITE AND GALENA
R        605.30  606.61       WITHIN A CARBONACEOUS MATRIX. THIS INTERVAL IS SEMI-MASSIVE
R        605.30  606.61       WITH CRUDE BANDING OF PYRITE AND SPHALERITE. THE TOP 5 CMS. OF
R        605.30  606.61       THIS INTERVAL IS A MASSIVE CHERT. SECONDARY FLUORITE WITH
R        605.30  606.61       BARITE.

/        606.61  607.32   0.71             BNSX           BN MX                P                B= D.       Q2         X2     M3
L                                            6T            BR                                                                L1
R        606.61  607.32       BANDS OF PYRITE, CALCITE AND SPHALERITE ALTERNATE WITH MORE
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       606.61  607.32      MASSIVE REGIONS CONSISTING OF PYRITE AND GALENA. FRAGMENTED
R       606.61  607.32      SULPHIDES OCCUR DUE TO MINOR FAULTING AND SOFT SEDIMENT
R       606.61  607.32      DEFORMATION. FLUORITE ASSOCIATED WITH BARITE.

/       607.32  611.30   3.98            LMSX SL GL CH7 LC LM              P  1 LM      60          L1 L)    B)    L+
L                                          TA CB CB1 SS SC                                                      L1
R       607.32  611.30      INTERVAL IS VARIOUSLY LAMINATED PARALLEL OR CONVOLUTE WITH
R       607.32  611.30      ISOCLINAL MICROFOLDS. CHERT IS UBIQUITOUS AS BANDS,
R       607.32  611.30      LAMINATIONS, PERVASIVE WITHIN SL LAMINATIONS, OR AS RARE BLEBS.
R       607.32  611.30      CB CONTENT VARIES: 100% IN LM, UP TO 10% WITH CHERT, SULPHIDES.

/       611.30  614.30   3.00            SXFG GL CB CH7                    P                <+       <) C.          8=
L                                          3A SL                C                                                  L+
R       611.30  614.30      GALENA OCCURS AS LM WITHIN FRAGMEMTS, AND AS HALOS AROUND CLASTS
R       611.30  614.30      AND AS MINOR VEINING. QZ OCCURS IN GASH VEINS AT 45 DEGREES TO
R       611.30  614.30      CORE, AND AS CRACKLE BRECCIA FILL.

/       612.06  612.58   0.52          X SXFG GL CB CH6                    R                <+       L1 C.          8+
L                                                                                                                   )

/       611.30  614.30   3.00          5 ARGL SF    CH1 VG ST              R                V=       V1       D)    B.
L                                          1A                                                                       B.
R       611.30  614.30      ARGILLITE ALSO AS FRAGMENTS WITH CA AND MINOR QZ AS BRECCIA FILL
R       611.30  614.30      AND GASH VEINING. PYRITE ALSO SEEN AS SELVAGES AND ENVELOPES
R       611.30  614.30      ABOUT DOMINATELY CA VEINING.

/       614.30  615.10   0.80            ARSI SF PY SI1 BN LM 2 3 1 3      P  1 LM     U65 <=       <* L1    6)
L                                          5A CB     BD SS                  2 BD     U65          D)
R       614.30  615.10      CROSS CUTTING QUARTZ CARBONATE MICROVEINS COMMON.

/ VE1   614.57  614.60   0.03          X VEIN BA QZ                        R                <8       6. L1    61    D.
L                                          9A CB                                                   D)

/       614.80  614.90   0.10          X BNSX BA PY     LM SS              R  2 BD     U65             L8    81    L.
L                                          9A CB                             1 LM     U65          D)
R       614.80  614.90      ONE SIDE OF BNSX IS PTRITIC IN CONTACT WITH ARSI. PYRITE RICH
R       614.80  614.90      BANDS ALTERNATE WITHIN THE BARITE LAMINATIONS AND BANDS.

/       615.10  615.87   0.77            BNSX BA PY     LM SS              P  1 LM     U65             L6    83    L1
L                                          AS CB     VG                     2 BD     U65          D)             L)
R       615.10  615.87      ALTERNATING LAMINATIONS, PYRITE RICH, GALENA - BARITE, BARITE.
R       615.10  615.87      SOME VERY GALENA RICH LAMINATIONS.

/       615.87  621.12   5.25            BNSX BA PY     LM SS              P  1 LM     U67             L7    81    L1
L                                          9A CB     VG                     2 BD     V67          D)             L=
R       615.87  621.12      PYRITE LAMINATIONS ALTERNATING WITH BARITE BANDS.
R       615.87  621.12      LOCAL SILICIFIED ZONES.
R       615.87  621.12      SOME INTERBEDDED BLACK CHERT, BEDS AVERAGE 2 CM WIDTH, AND
R       615.87  621.12      COMPRISE < OR = 5 % OF THIS PGI.

/       621.12  621.67   0.55            CHER PY BA CH8 DB KR              P                <=          D)    8+    D*
L                                          5A
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       621.12  621.67      THE CRACKLED TEXTURE REPRESENTS A SYNDEPOSITIONAL EVENT.

/       621.67  623.01   1.34            BNSX SF BA     LM BN                P  1 LM     U60              L7    81    L1
L                                            9A GL     SS KR                   2 BD     U60          D=             D.
R       621.67  623.01      INTERBEDDED CHERT CONTENT IS 10 % OF THIS PGI.

/       623.01  630.44   7.43            BNSX PY BA     LM BN                P  1 LM     U65              L5    62    L2
L                                            BA GL     SS                      2 BN     U65          L1             D.
R       623.01  630.44      INTERBEDDED CHERT CONTENT IS 5 % IN THIS INTERVAL.
R       623.01  630.44      LAMINATED GALENA CONCENTRATION AT CONTACT WITH CHERT.
R       623.01  630.44      CARBONATE PRESENT IN BLEBS AND STRINGERS.

/       624.75  625.15   0.40          X CHER PY     PY4 BN SS                R                              61    64    L)
L                                            T&

/       630.44  631.24   0.80            CHER PY BA CH5 LM DB                P  1 LM     U65 <=           L3    62    6=
L                                            3A GL     SS

/       631.24  633.43   2.19            CHAR SF PY     DB SS                P                <1                 61    D.
L                                            2A
R       631.24  633.43      EXTENSIVE MICROVEINING OF QUARTZ IN THIS INTERVAL.

/       631.24  633.43   2.19          2 ARSN SF PY SI2 DB SS 2 4 4 4        R                <1                 61
L                                            3A     SN4
R       631.24  633.43      INTERBEDDED SAND.
R       633.43  633.43      END SAMPLE INTERVALS FOR SOUTH ZONE 1.

K LS1   633.43  633.43   0.00

/       633.43  634.43   1.00            CHAR SF PY     DB SS                P                <1                 61
L                                            2A
R       633.43  634.43      EXTENSIVE QZ MICROVEINING.

/       633.43  634.43   1.00          2 ARSN SF PY SI2 DB SS 2 4 4 4        R                <1                 61
L                                            3A     SN4
R       633.43  634.43      INTERBEDDED SAND.

/       634.43  637.44   3.01            ARSN SF PY SI2 LM SS 2 4 4 4        P                <1                 61
L                                            5A     SN4 DB BN
R       634.43  637.44      FROM 634.39 - 634.89 LAMINATIONS DISPLAY INTENSE DEFORMATION.

/       635.84  636.14   0.30          X ARGL BA SF BA1 DB                   R                <=           B1    D*
L                                            2A
R       635.84  636.14      BLEBBY BARITE HORIZON.

/       636.14  640.81   4.67            BRHM SF        F* R*         PQ9    P                <+                 8)
L                                            4A        B*            JJ+
R       636.14  640.81      CHERT CONTENT HARD TO ESTIMATE DUE TO SILICIFICATION.

/       640.81  641.01   0.20            SAND PY SF     BS G;         258    P                                   8+
L                                            5A        R* F*         122
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       640.81  641.01      THIS REPRESENT A COMPLETE BOUMA SEQUENCE JUST ABOVE A BLEBBY
R       640.81  641.01      BARITE HORIZON.

/       641.01  641.41   0.40            ARSN BA SF BA4       2 3 3 3       P                                B4     D*
L                                            3A    SN3
R       641.01  641.41      BLEBBY BARITE HORIZON.

/       641.41  642.47   1.06            ARGL SF PY     //                   P  3 BD     U75 <)                   D*
L                                            1A

/       642.47  655.93  13.46            BRHT SF PY                    QS7   P                <)                   8=
L                                            3A                1   3 C                                  <=
R       655.93  655.93      BEGIN ASSAY INTERVAL FOR SZ-S.

/       655.93  657.93   2.00            BRXX SF PY SI6       2 4 4 4       P                <*                   D=
L                                            5A    SN4
R       655.93  657.93      BRECCIA IS COMPOSED OF SANDSTONE FRAGMENTS.

/       657.93  658.69   0.76            ARSN SF PY SI5 //    2 4 3 4       P  1 LM     U56 <+        <* <*     D=
L                                            5A CB SN3

/       658.69  661.30   2.61            ARSN SF QZ SI5 // DB 2 4 3 4       P  1 LM     U56 <1        <= <)     8+     B.
L                                            6A    SN3
R       658.69  661.30      INTENSE QUARTZ-CARBONATE-BARITE MICROVEINING, 20% OF PGI.
R       658.69  661.30      GALENA BLEBS OCCUR WITHIN QUARTZ-CARBONATE-BARITE VEINS.

K US2   661.30  661.30   0.00

/       661.30  661.66   0.36            BNSX SF CB CH5 // DB                P  1 LM     U65 <)           L3     81     6*
L                                            3A        SS                      2 BD     U65           L*              L.
R       661.30  661.66      GALENA CONCENTRATION OCCURS WITHIN A BRECCIATED CHERT-QUARTZ
R       661.30  661.66      VEIN.

/       661.66  666.57   4.91            LMSX BA CB CH3 // SS                P  1 LM     U85           81 L5     81     B)
L                                            5A GL     DB BN                   2 BD     U85           8) <=           L.
R       661.66  666.57      CHERT OCCURS AS BEDS (BANDS) UP TO 3 CM WIDE.

/       666.57  673.42   6.85            BNSX BA SF CH2 DB BR                P  1 LM     U85              65     81     6=
L                                            7A CB     SS LM                                          8)              6.
R       666.57  673.42      LAMINA AND BANDS OF BARITE HAVE BEEN TECTONICALLY BRECCIATED AND
R       666.57  673.42      PYRITE IS ACTING AS A MATRIX LOCALLY. BRECCIATION IS LOCALIZED
R       666.57  673.42      THROUGHOUT THIS INTERSECTION.

/ BSX   673.42  678.48   5.06            BNSX BA SF CH6                      P  1 LM     U65    D.        L2     L1     L1
L                                            7A CB                              3 BD     U65           L.
R       673.42  678.48      CHERT BANDS RANGE UP TO 4 CM IN WIDTH. CHERT BANDS ARE SEPARATED
R       673.42  678.48      BY 3 CM BANDS OF LAMINATED SULPHIDES. GALENA LAMINATIONS ARE
R       673.42  678.48      CONCENTRATED AT THE CONTACT WITH THE CHERT BANDS.

/       678.48  682.51   4.03            BRXX SF CB CH8 BR DB                P                <)           6=     6=     6=
L                                            5A                      NP8                                6)              D.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RT 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       678.48  682.51      SULPHIDES - SULPHATES ACTING AS MATRIX TO CHERT FRAGMENTS.
R       678.48  682.51      GALENA CONCENTRATIONS AROUND CHERT FRAGMENTS.

/       682.51  683.97   1.46            CHER PY CB CH8 LM                  P  1 LM     U60 <)       <(        L1    L)
L                                            4A                                2 BD     U60
R       682.51  683.97      POSSIBLE STIBNITE CRYSTALS ALONG SOME OF THE LAMINA.

/       683.97  685.47   1.50            BNSX CB PY CH6 SS BN               P  2 BD     U70 <)          L2    62    L)
L                                            4A BA                             1 LM     U70          L+             D.
R       683.97  685.47      WITHERITE PRESENT, LESS THAN 5%.
R       683.97  685.47      ALTERNATING CARBONATE RICH BANDS.

/       685.47  688.56   3.09            LMSX GL CB CH4 LM DB               P  1 LM     U75          L+ L3    62    61
L                                            5A BA     SS                      2 BD     U75          L+             D.
R       685.47  688.56      CARBONATE RICH BANDS.

/       688.56  690.06   1.50            LMSX G1 CB CH2 LM SS               P  1 LM     U50 <)       L+ L3    61    62
L                                            5A BA                             2 BD     U50          L2             D+
R       688.56  690.06      CARBONATE RICH BANDS.

/       690.06  690.37   0.31            CHER PY    CH7                     P                                L1    L=    D=
L                                            4A

/       690.37  694.12   3.75            LMSX CB GL CH3 LM SS               P  1 LM         <*           L4    L1    L1
L                                            5A BA                             2 BD                  L1             L)

/       694.12  695.00   0.88            CHER PY    CH8                     P  1 LM     U76 <)       <.        81    D.
L                                            3A                                2 BD     U76                         D.

/       695.00  695.60   0.60            LMSX CB PY CH5 LM SS               P  1 LM     U65 <)       <)        L2    L1
L                                            5A SF                                                    L+             L1
R       695.00  695.60      WELL DEVELOPED SPHALERITE CRYSTALS OCCUR ALONG QUARTZ VEINS.

/       695.60  695.90   0.30            LMSX CB PY CH6 LM SS               P  1 LM     U67                   62    L1
L                                            4A SL                                                                    D1
R       695.60  695.90      CARBONATE OCCURS IN BANDS.

K LS2   695.90  695.90   0.00

/       695.90  700.65   4.75            ARSN PY SF SI4 // LM 2 3 2 3       P  1 LM     U65 <)       <)        D2    D*
L                                            2A    SN2 SS                                                             D*
R       695.90  700.65      CROSS CUTTING QUARTZ, CARBONATE VEINS WHICH CONTAIN SPHALERITE
R       695.90  700.65      AND GALENA.

/       700.65  702.96   2.31            ARSN SF QZ SI4 // LM 2 3 2 3       P  1 LM     U60 <2                D2    D.
L                                            3A    SN2 SS                                                             D.
R       700.65  702.96      HEAVILY QUARTZ VEINED, INCLUDE SIDERITE.

/       702.96  706.11   3.15            ARSI SF PY SI2 // LM 2 3 1 3       P  1 LM     U55 <)                D1
L                                            3A    SN1
R       702.96  706.11      MINOR QUARTZ VEINS.
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| KEY | F -L- G | FROM ----.-- | TO ----.-- | INT ---.-- | RECOV ---.-- R Q D | MD % ROCK -- - ---- AGE FV RQ | TM TM QM1 -- -- --- LC TM QM2 | TX TX F -- -- - TX TX S | C % M -- - - C O O | ARG ---- CHT | RI --- | 1 - 2 | ID -- ID | AZM --- AZM | DIP --- DIP | QZ -- MG | FL -- MU | CY -- CL | CA -- SD | BA -- QS | XX -- HA | PY -- PR | CP -- MT | GL -- SL | YY -- HA | A 1 - A 2 - - - - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| / | | 706.11 | 709.30 | 3.19 | | | ARSN SF PY SI3 // LN | 2 3 4 3 | | | P | 1 | LM | | U65 <) | | | | | | | 61 | | D) | | |
| L | | | | | | | 3A SN4 | | | | | 2 | BD | | U65 | | | | | | | | | D) | | |
| K | US3 | 709.30 | 709.30 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 709.30 | 712.17 | 2.87 | | | LMSX CB BA CH2 LM SS | | | | P | 1 | LM | | U65 | | | | | L5 | | L1 | | L1 | | |
| L | | | | | | | 5A SF DB | | | | | 2 | BD | | U65 | | | L+ | | | | | | L1 | | |
| K | LS3 | 712.17 | 712.17 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 712.17 | 718.85 | 6.68 | | | ARSI SF PY SI2 | 2 3 1 3 | | | P | 1 | LM | | U68 <= | | | | | L= | | 61 | | D. | | |
| L | | | | | | | 2A SN1 | | | | | | | | | | | | | | | | | D. | | |
| R | | 712.17 | 718.85 | | CARBONATE OCCURS IN LAMINA, CROSS CUTTING QUARTZ VEINS. | | | | | | | | | | | | | | | | | | | | | | |
| / | | 718.85 | 726.34 | 7.49 | | | ARGL SF SI+ | 2 2 + 2 | | | P | 3 | BD | | U60 <( | | | | | | | 61 | | | | |
| L | | | | | | | 2A | | | | | | | | | | | | | | | | | | | | |

# G E O L O G E D I T L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-Z/N-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6B02

DRILLHOLE/TRAVERSE :81DWH068
TOTAL DEPTH/LENGTH : 750.31
CORE/HOLE DIAMETER : HQNQ

COLLAR ELEVATION: 1275.94
NORTHING(- IF S): 7002472.00
EASTING (- IF W): 436496.25

AZIMUTH( DEG ) : 0.00
VERTICAL ANGLE : -90.00
CO-ORD SYSTEM :

GEOLOGGED BY : DWB +
DATE (YY/MM/DD): 810000
PROJECT NUMBER : J-S2

| SER. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 30.00 | 146.90 | -89.47 |
| 2 | 58.52 | 145.20 | -89.34 |
| 3 | 78.94 | 144.00 | -85.33 |
| 4 | 100.58 | 164.00 | -83.00 |
| 5 | 118.87 | 130.00 | -82.00 |
| 6 | 137.16 | 119.00 | -80.00 |
| 7 | 152.40 | 114.00 | -78.00 |
| 8 | 167.64 | 137.00 | -76.67 |
| 9 | 176.48 | 114.00 | -76.00 |
| 10 | 198.12 | 121.00 | -75.00 |
| 11 | 222.20 | 122.00 | -74.00 |
| 12 | 246.27 | 129.00 | -71.67 |
| 13 | 265.17 | 132.00 | -70.00 |
| 14 | 274.01 | 133.00 | -69.25 |
| 15 | 295.65 | 137.00 | -67.25 |
| 16 | 310.59 | 139.00 | -66.00 |
| 17 | 327.35 | 143.00 | -64.00 |
| 18 | 344.11 | 146.00 | -63.00 |
| 19 | 359.35 | 150.00 | -61.50 |
| 20 | 374.90 | 150.00 | -60.50 |
| 21 | 392.58 | 151.00 | -59.00 |
| 22 | 411.48 | 151.50 | -58.00 |
| 23 | 432.51 | 152.00 | -56.00 |
| 24 | 455.37 | 154.00 | -55.00 |
| 25 | 475.18 | 153.50 | -53.50 |
| 26 | 503.22 | 154.50 | -50.00 |
| 27 | 521.20 | 152.00 | -48.00 |
| 28 | 532.48 | 150.50 | -47.00 |
| 29 | 551.69 | 152.00 | -44.50 |
| 30 | 581.86 | 153.00 | -41.00 |
| 31 | 609.60 | 156.00 | -37.50 |
| 32 | 641.91 | 156.50 | -33.50 |

| | | | |
|---|---|---|---|
| 33 | 643.74 | 156.50 | -32.50 |
| 34 | 655.93 | 156.50 | -31.00 |
| 35 | 660.50 | 156.50 | -30.75 |
| 36 | 668.12 | 156.50 | -30.50 |
| 37 | 680.31 | 155.70 | -30.50 |
| 38 | 692.51 | 155.20 | -30.50 |
| 39 | 704.70 | 154.60 | -30.00 |
| 40 | 708.05 | 154.50 | -30.00 |
| 41 | 716.89 | 155.80 | -28.50 |
| 42 | 729.08 | 157.50 | -28.00 |
| 43 | 741.27 | 157.50 | -27.50 |
| 44 | 747.37 | 157.50 | -27.00 |
| 45 | 748.89 | 157.50 | -27.00 |

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   F   - I N T E R V A L -    CORE  T- %       TYPI- QAL  TEX-  GRAIN        PGI   STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS SUMMARY
K  L (UNITS =    .  DEC.PLACE)RECOV-  M M ROCK FYING MIN TURES CHARACS                         H  H  H  H  H ANY H  H  H ANY  ALT ORE
E  A  (MT=METRIC FT=FOOTRIC)  ERY    O I      TM TM MAT TX TX F C % M ARG  /RI T ID STK DIP  A  A  A  A  A MIN A  A  A MIN  - - - -
Y  G  F R O M - T O - I N T ( . )   D X TYPE  1  2 QM1  1  2 F F C A          1    AZM  RT QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
- --- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
K  F                          ROCK   FM     RT    TM QM2 TX TX S C O O CHT      T ID STK DIP MG MU CL SD QS HA PR MT SL HA
E  L                          QUAL   AGE EN- Q LC- 3       3  4 O     /        2    AZM  RT H  H  H  H  H  H  H  H  H  H    1   1
Y  G                          DESIG      VIR   COL            R     C           STRUCTUR-2 A  A  A  A  A  A  A  A  A  A    2   2

R SVY     0.00     0.00      ALL READINGS BY SPERRY SUN SINGLE-SHOT AND MULTI-SHOT, EXCEPT
R SVY     0.00     0.00      FOR S001 WHICH WAS DONE BY GYROSCOPIC DIRECTIONAL SURVEY.
R SVY    58.52    58.52      BEGINNING OF WEDGED HOLE D.
R SVY    58.52    58.52      HALL AND ROWE STEEL WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   181.66   181.66      CLAP RETRIEVABLE WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   200.25   200.25      CLAP RETRIEVABLE WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   230.43   230.43      CLAP RETRIEVABLE WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   249.63   249.63      CLAP RETRIEVABLE WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   276.45   276.45      CLAP RETRIEVABLE WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   376.43   376.43      CLAP RETRIEVABLE WEDGE-FULL AZIMUTH TO THE RIGHT.
R SVY   750.31   750.31      END OF WEDGED HOLE D.

/         0.00    60.66  60.66          MISS                          P

/        60.66    63.20   2.54          BRHT CR                   M04  P                                  R+
L                                          3A              3       JM2

/        62.03    62.60   0.57        7 SAND CR    SN5 G; MX 1 3 5 6  R                                  D+
L                                          3A    SI3       7
R        62.03    62.60      THE HETEROLITHIC BRECCIA GRADES INTO A SILTY-SANDSTONE.

/        62.95    63.20   0.25        X BRHT CR          BR         M04  R              V4                 B+
L                                                   SK

/        63.20    83.43  20.23          BRHM    CR         SS        MP9  P                        <*
L                                          3A              3       KN)
R        63.20    83.43      BARITE AND A DULL RED MINERAL ARE ASSOCIATED IN VEINS AT THE TOP
R        63.20    83.43      OF THE INTERVAL.  CHERT FRAGMENTS OCCUR I.

/        83.43    94.20  10.77          BRHT    CR *S+     G;        LT5  P              <*                 D)
L                                          4A    *C+ F* B* 2   +    K03
R        83.43    94.20      PYRITE OCCURS AS DISSEMINATIONS IN THE ARGILLITE MATRIX, AS
R        83.43    94.20      SMALL NODULES WITH QUARTZ ENVELOPES AND AS A REPLACEMENT MINERAL
R        83.43    94.20      IN CHERT CLASTS.  THE INTERVAL'S FRAMEWORK SUPPORTED.  CHERT
R        83.43    94.20      CLASTS APPEAR TO GRADE NORMALLY, INDICATING THAT TOPS ARE IN A
R        83.43    94.20      UPHOLE DIRECTION.  TWO LARGE SANDSTONE CLASTS OCCUR BETWEEN 86
R        83.43    94.20      AND 88.75 METRES.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RW LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA
R        94.20  105.97      LARGE SILTY ARGILLITE CLASTS ARE RAFTED IN A PEBBLY MUDSTONE
R        94.20  105.97      MATRIX.

/       105.97  205.20  99.23            BRHM       SN1              LV9   P                <)                D)
L                                          3A            2
R       105.97  205.20      ESSENTIALLY A DISRUPTED ARSI UNIT.

/ FLT   126.90  142.21  15.31          5 BRHM GR    GG1              LV9   R                <+                <)
L                                                                                                  <.
R       126.90  142.21      THIS INTERVAL IS VERY GRAPHITIC AND MILDLY SHEARED DUE TO
R       126.90  142.21      FAULTING.  QUARTZ AND PYRITE VEINING IS ALSO PREVALENT.

/ SHR   161.95  165.02   3.07           X BRHM       GG1              LV9   R                <)                D)
L                                                                                                  <.

/ SHR   172.52  181.66   9.14           X BRHM       GG=              LV9   R                <+                D)
L                                                                                                  <.

/       181.66  183.18   1.52           X WEDG                        R
L
R       181.66  183.18      WEDGE.

/       183.18  187.76   4.58           X BRHM       SN1              LV9   R                <+                D)
L                                                                                                  <.

/       194.45  195.20   0.75           X BRHM       SN1              LV9   R                <)                #.
L                                                                                                      #1
R       194.45  195.20      INTV IS BRECCIATED + INFILLED WITH QTZ-CARB (SID?).

/       205.20  207.87   2.67             BRHT       *S) F*           NQ6   P                                  D-
L                                          5A       *C)        2   )  MO2

/       207.87  217.30   9.43             BRPM       *C( M; H* I L 5 R KR2   P                >2                D.
L                                          6A            5      C KN5                                >.
R       207.87  217.30      INTV IS FAIRLY COMPLEX - ESSENTIALLY A SAND ZONE-EXBIBITS
R       207.87  217.30      WELL-DEFINED NORMAL GRADING FROM PEBBLE SIZE (LESS THAN 1CM)
R       207.87  217.30      ARGL+CHT CLASTS AT BASE TO MED. SAND AT TOP. BOTTOM 3.33M
R       207.87  217.30      (213.97 - 217.30M) COMPRISES.  A SAND/PEBBLE MTX, WITH FRAGS OF
R       207.87  217.30      ARGL AS MUCH AS 3CMS LONG (IE ESSENTIALLY A BRHT).  UPPER 6.1M
R       207.87  217.30      (207.87 - 213.97M) IS ESSENTIALLY A SANDSTONE COMPRISING ARGL +
R       207.87  217.30      CHT GRAINS, WITH NO LARGE CHT FRAGS.  UPPER 4M IS CUT BY TWO
R       207.87  217.30      LARGE QTZ VN SYSTEMS WITH MNR CARB (SID?)

/       208.85  210.92   2.07           9 VEIN            ST MX        R                >9                D.
L                                          8A

/       211.50  212.00   0.50           5 BRPM       *C( M; H* I L 5 R KR2   R                >5                D.
L                                          7A
R       211.50  212.00      SANDSTONE AS ABOVE, CUT BY PROMINENT QTZ STOCKWORK.

/       213.97  217.30   3.33           X BRPM       *C( H* M;        LR5   R                                  D.
L                                          6A                3       KN4
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       217.30  246.40  29.10              BRHT        *S)                RV7   P                                  D-
L                                                5A     *C+ F*     2   )   MO2
R       217.30  246.40      UPPER PART OF INTV APPEARS TO BE CONTINUOUS WITH OVERLYING UNIT.

/ FRG   222.40  228.45   6.05            X ARSI        SN2 LM     0 3 2 3       R  1 BD       87                    L*
L                                                4A

/ SHR   243.15  244.75   1.60            X FAUL        GG1                      R
L                                                4A
R       243.15  244.75      RUBBLY INTV;  LOCAL GOUGE.

/       246.40  252.68   6.28              BRHM        *S+                PR8   P
L                                                4A                3   +   KM+
R       246.40  252.68      LOCALLY BECOMES BRPM.

/       252.68  259.60   6.92              BRPM        *S) F*             OQ3   P                                  D.
L                                                5A     *C-        2   ) O NP2
R       252.68  259.60      LOCALLY BECOMES BRHT

/       259.60  267.70   8.10              BRHM        *S*                PQ7   P                                  D.
L                                                4A                    *   KN+
R       259.60  267.70      LOCALLY BRPM.

/       267.70  295.00  27.30              BRHT        *S) F* B*          OT4   P                <(                D.
L                                                5A     *C) H*         )   NO5

K UDF   295.00  295.00   0.00
R UDF   295.00  295.00      POSSIBLE TOP OF THICK SEQUENCE OF DEBRIS FLOWS CHARACTERIZED

K UDF   295.00  295.00   0.00
R UDF   295.00  295.00      BY CGCP CLASTS.

/       295.00  305.50  10.50              CGBR        *S+                RT5   P                <(                D.    D.
L                                                5A                  3 +   LO=
R       295.00  305.50      INTV MAY REPRESENT TOP OF BRCG UNIT AS NOTED ABOVE.  ALTHOUGH
R       295.00  305.50      CGCP FRAGS ARE QUITE ABNT IN THIS INTV HOWEVER, THEY ARE
R       295.00  305.50      RELATIVELY RARE BENEATH THIS ZONE IE CGBR UNIT IS NOT AS WELL
R       295.00  305.50      DEVELOPED IN DDH 68D AS IN 68, 68A AND 68C.  IN A COUPLE OF
R       295.00  305.50      INSTANCES, IT IS UNCLEAR WHETHER CGCP INTERVALS ARE FRAGMENTS OR
R       295.00  305.50      REPRESENT A DEPOSITIONAL EVENT.

/ SHR   297.70  298.40   0.70            X CGBR GR     *S+                RT5   R                <(                D.    D.
L                                                4A
R       297.70  298.40      RUBBLY INTV (SHR), GRAPHITIC.

/ FRG   298.90  300.45   1.55            X CGSN SF         MX     I L 3 O       R                          B.       D-    D.
L                                                6A                4     O
R       298.90  300.45      UNCLEAR WHETHER THIS IS A FRAGMENT OR IS DEPOSITIONAL-PROBABLE
R       298.90  300.45      FRAGMENT.

/       305.50  327.80  22.30              BRHM        *S+                RT9   P                                  D.
L                                                4A                    +   LN)
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM OM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RO LC TM OM2 TX TX S C U O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       305.50  327.80      LOCALLY BRPM.  INTV CONSISTS PREDOMINANTLY OF ARSI FRAGMENTS
R       305.50  327.80      CONTAINING 15-20% SAND LAM.

/ SHR   326.30  327.80   1.50          X BRHM       *S+                RT9   R                                  D.
L
R       326.30  327.80      RUBBLY INTV.
R       327.80  328.75      PROBABLY DEPOSITIONAL 2 GRADED CYCLES FROM PEBBLES AT BASE TO
R       327.80  328.75      FINE SAND AT TOP.  15CM ZONE FROM 327.85M TO 328.0M COMPRISES
R       327.80  328.75      ARGL AT BASE (CONFORMABLE WITH UNDERLYING SAND, AND BRHT AT TOP.

/       327.80  330.00   2.20            BRPM                          LR3   P                <)        <)
L                                          6A                          KP6

/       327.80  328.75   0.95          X SAND           G;     I K 2 L       R                V=
L                                          7A                6

/       329.90  330.00   0.10          X SAND                  I K 2 N       R  2 BD      40 <+
L                                          7A                5
R       329.90  330.00      TURBIDITE; ALTERNATING RELATIVELY FINE + RELATIVELY COARSE SAND
R       329.90  330.00      BEDS.  UPPER HALF CONTAINS APPROX 20% SHALE FRAGS UP TO 1CM.

/       330.00  365.20  35.20            BRHM       *C. B*             5V9   P                                  D.
L                                          5A     *S(       3 1 (    LO*                          Q-
R       330.00  365.20      INTV HAS A VERY LOW CHT CONTENT AND IS EFFECTIVELY A BRHM EXCEPT
R       330.00  365.20      FOR THE PRESENCE OF SEVERAL PEBBLY SANSTONE ZONES RANGING FROM
R       330.00  365.20      10CMS TO 1.7CMS.  THE MAJOR PEBBLY SAND ZONES ARE 331.7 - 331.94
R       330.00  365.20      (FRAG), 337.7 - 337.9 (PROBABLE FRAG), 358.28 - 358.75 (FRAG)
R       330.00  365.20      AND 365.2 - 366.98M (PROBABLE FRAG).  INTV IS LOCALLY RUBBLY. A
R       330.00  365.20      PATCH OF SIDERITIZED ARGL APPROX. 10CMS LONG OCCURS AT 358.80M.
R       330.00  365.20      THIS IS A POSSIBLE FRAGMENT.

/ FLT   334.15  337.41   3.26          X FAUL                                R
L                                          5A
R       334.15  337.41      RUBBLY INTV.

/       358.30  358.75   0.45          X CGSN       *C+ F* B* J L 3 N   +   R
L                                          7A                3     O   9
R       358.30  358.75      PROBABLE FRAGMENT, BUT DIFFICULT TO BE SURE.

/ FLT   361.26  365.20   3.94          X FAUL       GG1 B*             5V9   R                                  D.
L                                          5A
R       361.26  365.20      RUBBLY INTV WITH LOCAL FAUL GOUGE.

K UDF   365.20  365.20   0.00
R UDF   365.20  365.20      PROBABLE FRAG, BUT DIFFICULT TO BE SURE.

/       365.20  366.98   1.78            CGSN       *C= B* H* J L 4 O   1   P                                  D.
L                                          7A         F*    3     C   9

/       366.98  381.61  14.63            BRHT                          OT9   P                <.                D.
L                                          4A                3 )      LM=
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       366.98  381.61      LOCALLY BRPM.

/       378.36  378.92   0.56          X SAND          BD G; 3 J = K       R  2        U   <)
L                                          7A              7
R       378.36  378.92      PART OF AN ARSN FRAG WHICH EXTENDS FROM 376.43 TO 380.20M.

/       379.30  381.61   2.31          X FAUL                          OT9   R                <.                D.
L
R       379.30  381.61      RUBBLY INTV.

/       381.61  384.05   2.44            BRPM                          NO3   P                                  D.
L                                          6A                          JL3
R       381.61  384.05      BRHT WITH SAND/CLAY MTX.
R       381.61  384.05      RUBBLY INTV.
R       384.05  392.60      VERY RUBBLY INTV.

/       384.05  408.90  24.85            BRHT CB     *C( B* F*          SU8   P                                  D.
L                                          4A     *S-        2 1 -    LP)

/ FLT   384.05  392.60   8.55          X FAUL GR     *C( B* F*          SU8   R                                  D.
L                                          4A     *S-        2 1 -    LP)
R       384.05  408.90      INTV HAS A VERY LOW CHT CONTENT BUT CONTAINS SEVERAL INTVS OF
R       384.05  408.90      CGCP AND CGSN.  THESE RANGE UP TO APPROX 1.1M AND ARE PROBABLY
R       384.05  408.90      FRAGMENTS.  TOP + BTM APPROX. 8M ARE VERY RUBBLY, AND FAULTED,
R       384.05  408.90      WITH OCCASIONAL FAULT GOUGE (SEE DITTO'S BELOW).  FAULTING MAKE
R       384.05  408.90      IT DIFFICULT TO DETERMINE SIZE OF ARGL FRAGS.

/ FRG   390.87  391.20   0.33          X CGSN        *C= H* P* I M 5 M       R                <)
L                                          6A          MX    4     C

/ FRG   392.74  393.50   0.76          X CGSN        *C= H* B* I L 6 N       R                <)
L                                          5A          F* MX 4     C

/ FRG   398.60  398.90   0.30          X CGCP        *C+ H* F* K M 6 N       R                                  D-
L                                          6A          MX    5     C

/ FRG   400.28  400.66   0.38          X CGSN        *C) B* MX J L 3 N       R
L                                          6A                3     O

/ FLT   400.90  406.91   6.01          X FAUL GR     GG1 B* F*          SU8   R                                  D.
L                                          4A
R       400.90  406.91      VERY RUBBLY INTV.

/       408.90  425.10  16.20            BRHM        *S)                ST9   P                                  D.
L                                          5A                4   )    LN-
R       408.90  425.10      ESSENTIALLY A SLIGHTLY DISTRUPTED ARSI CONTAINING APPROX. 15%
R       408.90  425.10      SAND.

/       425.10  430.80   5.70            BRHT        *S-                PS8   P                          #-      D.
L                                          5A                3 - -    LO2

/       430.80  442.87  12.07            BRHM        *S)                ST9   P                          #-      D.
L                                          4A                3   )    IJ(
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RG LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       442.87  451.30   8.43              BRHT        *C* H* F*          PS4   P                                  D-
L                                                5A     *S=        2   1   LO2                                V.
R       442.87  451.30      ARSN FRAGMENTS ARE COMMON (CONTAINING APPROX. 30% SN) MATRIX IS
R       442.87  451.30      LOCALLY SANDY.

/ FRG   446.10  446.37   0.27            X SAND            BD G; 3 4 3 4       R  2                                D*
L                                                7A                8
R       446.10  446.37      SAND INTERVAL OCCURS AT TOP OF ARSN FRAG WHICH WXTENDS FROM
R       446.10  446.37      446.10 TO 446.90

/       448.20  448.54   0.34            X SAND            BD DB 2 5 2 6       R  2 BD      40                      D.
L                                                6A                6
R       448.20  448.54      UNCLEAR WHETHER THIS IS A TURBITE OR FRAG.  BUT IS PROB. A
R       448.20  448.54      TURBIDITE.

/       451.30  461.88  10.58              BRHT        *S+ H* F*          PS4   P                                  #(
L                                                4A     *C( B*     2 * +   KO2
R       451.30  461.88      MATRIX IS COMMONLY SANDY (IE. COARSE SAND AND CLAY MATRIX).

/ SHR   460.67  461.70   1.03            X FAUL GR     GG= H* F*          PS4   R                                  D(
L                                                                                                      C.
R       460.67  461.70      RUBBLY INTERVAL WITH GOUGE.

/       461.88  467.24   5.36              CGBR        *S+                NP+   P                <.
L                                                5A                2 8 +   KM+
R       461.88  467.24      SECTION CONTAINS EXTENSIVE ZONES OF CGCP WHICH APPEAR TO BE
R       461.88  467.24      CLASTS AS OPPOSED TO TURBIDITE SEQUENCES (THESE WILL BE
R       461.88  467.24      DESCRIBED AS REPEAT INTERVALS).

/ FRG   462.18  462.92   0.74            X CGCP        *C= F* H* J N 3 O       R                                  D-
L                                                6A         MX     5     O

/ FRG   463.40  463.69   0.29            X CGCP        *C( F* B* K L 4 M       R                                  D-
L                                                6A                4     O

/ FRG   463.74  464.11   0.37            X CGCP        *C) H* F* J M 4 N       R                                  D.
L                                                6A                5     C

/ FRG   464.63  465.83   1.20            X CGCP        *C) H* F* J L 3 P       R                V*                D-
L                                                6A     *S+        5   + O

/ FRG   466.11  467.24   1.13            X CGCP        *C- F*     K L 4 N       R                                  D-
L                                                6A                2     C

/       467.24  483.63  16.39              BRHT        *S= F*             PS5   P                <.                R(
L                                                4A     *C(        2 2 =   LN1                          C.
R       467.24  483.63      SECTION CONTAINS SEVERAL ZONES OF CGSN WHICH APPEAR TO BE FRAGS.
R       467.24  483.63      BUT MAY POSSIBLY BE TURBIDITES.

/ FRG   470.43  470.79   0.36            X CGSN                   J L 4 M       R                                  D.
L                                                6A                3     C
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R O D  AGE EV RG LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ FRG  472.83  473.76   0.93          X CGSN                  J L 3 O       R                                  R-
L                                            6A               4     O

/ FRG  477.20  478.88   1.68          X CGSN                  J L 3 N       R               V)                 D.
L                                            6A               4     O

/ SHR  477.20  478.88   1.68          X FAUL GR    GG= F*             PS5   R               <.                 R(
L                                            4A
R      477.20  478.88      RUBBLY INTV WITH LOCAL FAULT GOUGE.
R      483.63  488.09      QTZ.  VEINS ARE COMMON, ESPECIALLY IN BOTTOM .7M OF INTERVAL.
R EDT  483.63  488.09      ( IN COLUMN 40 WAS NOT ENTERED BECAUSE IT WAS NOT DEFINED IN THE
R      483.63  488.09      MICROGEOLOG TABLES.

/      483.63  490.02   6.39            BRHM                        OS6   P               <-                 R)
L                                            4A               5     LP)

/ SHR  483.63  488.09   4.46          X FAUL GR    GG4                OS6   R               >+                 R)
L                                            3A               5     LP)                         C(
R      483.63  490.02      UPPER 5.0M OF INTERVAL IS RUBBLY WITH LOCAL GOUGE AND QTZ VEINS.

/      490.02  506.70  16.68            BRHT         *S=               OS5   P                                  R-
L                                            4A     *C- F*    2 1 =    MP2
R      490.02  506.70      SECTION CONTAINS SEVERAL INTERVALS WHICH APPEAR TO BE CGSN FRAGS
R      490.02  506.70      AS OPPOSED TO TURBIDITE SEQUENCES.  INTERVAL IS LOCALLY QUITE
R      490.02  506.70      SANDY (EG. 493.40 - 494.10M).

/ FRG  494.67  495.72   1.05          X CGSN       *C- F* H* J M 4 P LO+   R                                  D.
L                                            6A               4     O
R      494.67  495.72      INTV CONTAINS MNR ARGL FRAGS.

/ FRG  495.91  496.51   0.60          X CGSN SD    *C- F* R* J M 4 N       R                       R.         D.
L                                            6A               3     O
R      495.91  496.51      INTV IS DEFINATELY A FRAG.  TRACE SIDERITE OCCURS WITH PYRITE AS
R      495.91  496.51      A REPLACEMENT OF BLK CHT.

/ FRG  505.60  506.00   0.40          X CGSN       *S( B* H* J M 3 N LM*   R                                  D.
L                                            6A               3   ( O
R      505.60  506.00      INTV CONTAINS MNR ARGL FRAGS.

/      506.70  513.80   7.10            BRPM         *S1 F* H*         OQ5   P                                  R.
L                                            5A     *C.       2 ( -    MO3                         C.
R      506.70  513.80      INTERVAL CONTAINS AT LEAST ONE TURBIDITE INTERVAL WHICH IS
R      506.70  513.80      GRADATIONAL WITHIN THE BR INTERVAL.

/ FRG  508.10  508.34   0.24          X CGCP PY    *C- F* H* J N 3 O       R                                  D-
L                                            6A     *S-       3   - C
R      508.10  508.34      CONTAINS UP TO 10% ARG FRAG., SOME OF WHICH ARE SILICIFIED.

/      512.11  512.37   0.26          X SAND PY        BD G; I J 2 M       R  2         U40                   D.
L                                            6A               7
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R      512.11  512.37      INTERVAL IS DEFINITELY A TURBIDITE AND IS GRAD AT TOP AND BOTTOM

/      513.80  525.58  11.78            BRHT PY     *S1                PT6   P                                D.
L                                          4A     *C. F* H* 3 . 1    MP2
R      513.80  525.58      INTERVAL IS LOCALLY QUITE SANDY.

/      525.58  527.66   2.08            CGPS PY     *C( G: F* I K 1 P       P           U                    C-
L                                          5A     *S9 BS     4     O                                  #(
R      525.58  527.66      UPPER AND LOWER CONTACTS ARE DEPOSTIIONAL-INTERVAL IS A
R      525.58  527.66      TURBIDITE INTERVAL IS COARSING UPWARDS BOTTOM OFINERUAL IS CGSN
R      525.58  527.66      AND IS REPEATED BELOW.

/      526.09  526.91   0.82          X CGSN PY     *C. F* H* I M 7 0       R                                D.
L                                          6A                3     O
R      526.09  526.91      INTERVAL CONTAINS ABOUT 20% ARG CLASTS.

/      527.66  531.67   4.01            CGPS            BS G; I J * O       P  6        U30
L                                          5A          IM LM 8     O
R      527.66  531.67      UPPER PART OF INTERVAL IS FINE GRADED SAND-LOWER PART IS A
R      527.66  531.67      COARSE CGSN WHICH IS ALSO GRADED-TOGETHER.  THEY FORM A
R      527.66  531.67      TURBIDITE, THE CGSN IS REPEATED.

/      528.81  531.67   2.86          X CGSN        SN2 G:     K N 6 P       R
L                                          6A     *C) F* H* 4     O
R      528.81  531.67      LOCAL CLOSED BUT GENERALLY FLOATING IN SANDY MATRIX.
R      531.67  531.97      MAY BE A LARGE FRAGMENT.

/      531.67  537.34   5.67            BRHT PY          F* B*          OQ3   P                                D.
L                                          6A          R*             NO7

/      531.67  531.97   0.30          X BRPM PY                         NO2   R                                D.
L                                          2A                      O

/      533.27  533.44   0.17          X BRPM PY          F* B*          IJ1   R                                D.
L                                          2A                         IJ1
R      533.27  533.44      MAY BE A LARGE FRAGMENT.

/      537.34  539.04   1.70            BRHT PY GL *C- F*                PR7   P                                R-    D.
L                                          3A     *S)        3 = )    MN2
R      537.34  539.04      INTERVAL IS A BRHT WITH A LARGE ARG FRAG.

/      539.04  540.85   1.81            CGSN            IM LM I L 2 P       P           U50
L                                          4A     *S+ BS     3     O
R      539.04  540.85      INTERVAL APPEARS TO REPRESENT A BOUMA SEQUENCE WITH A-D
R      539.04  540.85      INTERVALS PRESENT.  THE INTERVAL GRADES FROM A BRHT WITH ARG,
R      539.04  540.85      CGCP AND SAND CLASTS INTO LAMINATED MUDSTONE.

/      540.85  541.83   0.98            CGCP PY     *C= F* H* K M 7 P       P                                C.
L                                          6A                3     C
R      540.85  541.83      INTERVAL MAY BE PART OF UPPER TURBIDITE.

/      541.83  545.93   4.10            BRHT        S*=                 OR6   P
L                                          4A     *C- H* F* 3 + =    MN2
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM GPT TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        P O D  AGE EV RO LC TM OB 2 TX TX S C D O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       541.83  545.93       INTERVAL CONTAINS AT LEAST ONE LARGE CG FRAG.

/       545.93  561.83  15.90            BRPM PY     S S                NS1   P                                D.
L                                          4A                2   3 O N06
R       545.93  561.83       INTERVAL IS MODERATELY SANDY WITH A SANDY MATRIX AND SAND BANDS
R       545.93  561.83       UP TO .2M  ALSO ARG FRAGS UP TO .8M ARE PRESENT AND ARE REPEATED
R       545.93  561.83       CORE IS LOCALLY RUBBLY.

/ FRG   556.05  556.83   0.78          X ARGL        S Y LM     A F + F       R
L                                          3A     SLJ        8

/ FRG   557.52  557.72   0.20          X ARGL SF                A A   A       R                <(
L                                          6A                 9
R       557.52  557.72       FRAG IS STRONGLY SILICIFIED AND HAS A FEW QTZ VEINLETS

/       561.83  566.22   4.39            BRHM        S =                QT9   P
L                                          4A                3   = C KM)
R       561.83  566.22       INTERVAL CONSIST OF SEVERAL LARGE LAM ARGL CLASTS WITH MINOR
R       561.83  566.22       CHERT AT TOP OF INTERVAL.

/       566.22  575.51   9.29            BRHT        SN+                NR3   P
L                                          5A                2 + +   LO5
R       566.22  575.51       INTERVAL IS LOCALLY SANDY.

/       575.51  588.97  13.46            BRHM        SN=                QT9   P                        <.
L                                          4A                5   = C   0                          C.
R       575.51  588.97       FRAGS ARE LARGE WITH ONLY A FEW SMALLER FRAGS.

/       588.97  601.20  12.23            BRHT PY     SN= F* B*          QS4   P                        D.
L                                                      *C)       2 + =   MO4
R       588.97  601.20       INTERVAL IS LOCALLY SANDY-ALSO SOME SAND CLASTS PRESENT

X LDF   601.20  601.20   0.00

/       601.20  613.32  12.12            ARSI PY GR SI1 // LM               P  1 LM     U58 <.                8+
L                                          2A     SN2 SS IB

/       602.33  602.91   0.58          X BRHT PY        IB F*          NO9   R  5                          6=
L                                          3A                           LM1

/       604.97  605.11   0.14          X SAND PY     SI2 IB BD             R  2 BD     U50                   81
L                                          5A     SN8 //

/       609.55  609.72   0.17          X SAND PY     SI3 IB BD             R  2 BD     U50                   81
L                                          5A     SN7 //

/       610.60  611.62   1.02          X BRHT PY     SN1 IB F*          NO5   R                             6+
L                                          3A        DB          1   KO4
R       610.60  611.62       SANDSTONE FRAGMENTS MAKE UP 10% OF THIS REPEAT UNIT.

/       613.32  626.15  12.83            BRHM PY        F* R*          PT7   P                             8)
L                                          2A                   7   LN1
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM S 1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RG LC TM R 2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA
R        613.32  626.15       COMPOSED OF 70% ARSN FRAGMENTS.

/        615.04  615.61  0.57            X ARSN PY     SI3        2 3 5 3       R                                L+
L                                              3A     SN5
R        615.04  615.61       PROBABLE LARGE FRAGMENT.

/        622.35  626.15  3.80            X ARGL PY                              R  2 BD     U83                  D*
L                                              1A
R        622.35  626.15       PROBABLE LARGE FRAGMENT.

/        626.15  649.37 23.22              BRHM PY                       QS9   P                                8+
L                                              2A                       JJ+

/        629.96  630.41  0.45            X SAND PY     SI2        2 4 8 4       R                                D)
L                                              4A     SN8        2
R        629.96  630.41       PROBABLE FRAGMENT.

/        631.86  632.41  0.55            X ARSI PY     SI2 LM // 1 2 1 2        R  1 LM     U53                  L=
L                                              3A     SN1 SS
R        631.86  632.41       PROBABLE FRAGMENT.

/        644.35  645.10  0.75            X BRHT PY         F*             LP8   R                                D+
L                                              3A                       JL2                          <)
R        644.35  645.10       PROBABLE FRAGMENT.

/        647.40  648.45  1.05            X ARGL PY         MX                   R                 <(             D+
L                                              1A
R        647.40  648.45       PROBABLE FRAGMENT.

/        649.37  650.44  1.07              BRHT PY         F* H*          NP4   P                                8+
L                                              4A                   3   LN3
R        649.37  650.44       ARSN FRAGMENTS MAKE UP 30% OF THIS INTERVAL.

/        650.44  652.54  2.10              SAND PY GR SI2 BS IM 2 4 7 5         P                                8=
L                                              5A     SN7        5
R        650.44  652.54       AN UPPER SEQUENCE OF A BOUMA SEQUENCE\ INCLUDES LOCAL LARGE
R        650.44  652.54       ARGILLITE FRAGMENTS, 5% OF PGI.  IMBRICATED AT 50% UP HOLE.

/        652.54  656.86  4.32              BRHT PY GR      BS            NP4   P                                8+
L                                              5A                   2   JM4
R        652.54  656.86       LOWER PORTION OF BOUMA SEQUENCE, THAT EXTENDS FROM 650.44 TO
R        652.54  656.86       656.86.  ARSN FRAGMENTS MAKE UP 20% OF THIS PGI.

/        656.86  665.00  8.14              BRHT PY         F* R*          PR6   P                 <)             6=
L                                              3A         H*           3   MN1                          C/

/        656.86  665.00  8.14            3 BRXX PY     SI2        2 3 4 3       R                                6=
L                                              4A     SN4
R        656.86  665.00       MAINLY ARSN FRAGMENTS.

/        665.00  665.40  0.40              CGCP PY                              P                                6+    6*
L                                              5A
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QV1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                         R O D  AGE EV RQ LC TM QV2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       665.40  666.60   1.20                BRHM PY GL      F* R*          M09  P                                  62     6+
L                                                3A         H*             JK1                         C.
K US1   666.60  666.60   0.00
/ MSX   666.60  666.88   0.28                MSSX PY GL      BR MX             P                                B*     63     62
L                                                A$ SL
R       666.60  666.88       START OF FIRST ORE ZONE.  LOCALLY SILICEOUS.
/ MSX   666.88  667.30   0.42                MSSX PY GL      BR MX             P                B1              B*     64     65
L                                                T$ SL                                                                     6=
R       666.88  667.30       SILGHTLY CALCAREOUS ALONG FRACTURES.
/ MSX   667.30  667.90   0.60                MSSX PY GL      BR MX             P                <1      B)      B*     64     63
L                                                T$ SL                                                   D(                61
R       667.30  667.90       CARBONATE OCCURS LOCALLY IN BLEBS AND VUG FILL.  SPHALERITE
R       667.30  667.90       CONCENTRATIONS OCCUR AS WAVEY BANDS.
/ BSX   667.90  668.25   0.35                BNSX PY GL      BN                P                81              L3     62     63
L                                                3A SL                                                   D*                6=
R       667.90  668.25       BARITE APPEAR TO BE SILICIFIED.
/ BSX   668.25  668.48   0.23                BNSX PY SL      BN                P                6=      6= D*   B*     D=     61
L                                                6A GL                                                                     63
R       668.25  668.48       CARBONATE AND QTZ OCCUR TOGETHER AS DRIMARY CRYSTALS AS WELL AS
R       668.25  668.48       LAMINATIONS WITH MINOR BARITE.
/ BSX   668.48  668.92   0.44                BNSX PY GL *C- BN F*              P                B=      B1              62     65
L                                                5A SL                                                                     62
/ MSX   668.92  669.47   0.55                MSSX GL SL      MX LM             P                81      B+              61     64
L                                                T$ PY      BR                                           D.                64
R       668.92  669.47       LAMINATIONS ARE VISABLE WITHIN THE MASSIVE SPHALERITE ZONES.
/ BSX   669.47  670.85   1.38                FGSX PY GL      MX BR             P                82      62              63     62
L                                                6A CB      VG LM                                        L+                6+
R       669.47  670.85       SOME LOCALIZED PODS OF PYRITE, MAY REPRESENT FRACTURE FILL.
/       670.85  673.65   2.80                FGSX GL PY      BR                P                <1      61      63      82 <.  62
L                                                7A CB                                                   61                D.
/       673.65  674.62   0.97                FGSX PY GL      BR                P                <+      61      65      61     62
L                                                5A CB                                                   D+                6*
/       674.62  675.29   0.67                FGSX PY GL      BR                P                <+      62      64      61     62
L                                                5A CB                                                   61                D*
/       675.29  676.35   1.06                FGSX PY CB      BR                P                        61      64      61 B.  62
L                                                5A GL                                                   8* 61 <1          8)
R       675.29  676.35       QUARTZ-SIDERITE VEINS CONTAIN THE MAJORITY OF THE SPHALERITE.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                          R Q D  AGE EV RG LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ MSX  676.35  676.58   0.23            MSSX GL PY                          P                                61     82     85
L                                            6A SL                                          <+     8* 6=              8+
R      676.35  676.58      LOCALLY CARBONACEOUS.

/ MSX  676.58  677.28   0.70            MSSX PY GL     BR LM                P  1 LM     U40 <*     61     63     62     83
L                                            5A CB     VG                                           8. L)              8*

/ MSX  677.28  678.79   1.51            MSSX GL SL     BR LM                P                <*         62     61     65
L                                            5A CB     MX                                        L1 <+              61

/ MSX  678.79  679.56   0.77            MSSX GL PY     MX BR                P                           <+     81     86
L                                            6A CB                                             D* <)              8=
R      678.79  679.56      QUARTZ-CARBONATE-BARITE-SIDERITE VEINS LOCALLIZED THROUGHOUT.

/ MSX  679.56  680.10   0.54            MSSX GL PY     MX BR                P                <*     81     81     81     86
L                                            6A SL                                             8=                    <+

/ BSX  680.10  681.08   0.98            BNSX GL SL     LM SS                P  1 LM     U60         L1     L1            67
L                                            5A CB                              2 BD     U60            D.                61
R      680.10  681.08      MAY REPRESENT A FAGMENT.  BARITE IS SUCROSIC IN APPEARANCE.
R      680.10  681.08      SULPHIDES HAVE NOT BEEN REMOBILIZED AS IN PREVEOUS INTERVALS.
R      680.10  681.08      CARBONATE APPEARS AS ALTERNATING BANDS.

/ BSX  681.08  681.56   0.48            BNSX GL SL     BN LM                P  1 LM     U65         D*     L1     6+     65
L                                            6A PY     VG                                 3 BD     U65            D*                64

/ MSX  681.56  682.12   0.56            MSSX GL SL     LM BR                P                           6+     61     61     64
L                                            4A PY     VG                                           C. D+ <1              63
R      681.56  682.12      INTERVAL IS CALCAREOUS, FINELY DECCEMINATED THROUGHOUT.
R      681.56  682.12      A BRIGHT RED-BROWN RUST STAIN ALSO OCCURS LOCALLY.

/      682.12  682.45   0.33            FGSX GL SL     BR MX                P                8+     D1     D1     81     84
L                                            4A CB     VG                                            D*                83
R      682.12  682.45      STRONGLY CALCAREOUS.  THE BRIGHT RE-BROWN RUST STAIN NOTED ABOVE
R      682.12  682.45      IS ALSO PRESENT HERE.  THE CORE HAS A PITTED AND WEATHERED
R      682.12  682.45      APPEARANCE, AS IF FROM A SOLUTION FILLED FAULT.

/ LMX  682.45  683.75   1.30            LMSX GL SL     MX LM                P  1 LM     U43 <+     D+     L=     D+     68
L                                            4A                                 2 BD     U43            D*                61

/ LMX  683.75  687.54   3.79            LMSX GL SL     LM VG                P  1 LM     U43 <+         62     D+     66
L                                            4A                                 2 BD     U43            L1                61
R      683.75  687.54      CORE IS BADLY BROKEN AND HAS A PITTED AND WEATHERED APPEARANCE
R      683.75  687.54      AS IF FROM A FAULT ZONE, DUE TO SOLUTIONS.

K LS1  687.54  687.54   0.00

/      687.54  691.29   3.75            BRHT PY GR     F* BR          OP6   P                <)     D*     6+     81     D*
L                                            4A CB                 3 C JM1                                                   D.
R      687.54  691.29      CORE IS BADLY BROKEN OVER THIS INTERVAL.  MAY REPRESENT A FAULT
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R      687.54  691.29      ZONE.  30% OF FRAGMENTS IN THIS INTERVAL ARE ARSN.

/      691.29  693.35   2.06            BRHT PY GR      F* R*          OP8   P                                C)     D+
L                                            2A                      C JM2

/      693.35  694.07   0.72            SAND PY GR SI2 MX     2 5 8 6       P                                C*     D)
L                                            6A     SN8       5

/      694.07  703.73   9.66            BRHT PY GR      F* R*          NP5   P                  <*            C)     6+
L                                            4A         H* B*      4 C JN1                          C*
R      694.07  703.73      30% OF THIS INTERVAL IS ARSN FRAGMENTS.

/      695.95  696.15   0.20          X CGCP PY         F* R*          KN1   R                        D.            83
L                                            7A         H* B*          LN6                            8)
R      695.95  696.15      PYRITE IS REPLACING MATRIX MATERIAL.

/      698.14  698.34   0.20          X CGCP PY GL      F* R*          1K1   R     IM      U45                      8+     D.
L                                            7A         H* IM          IN9

/      700.63  700.78   0.15          X CGCP PY GL      F* B*          JL1   R                                      81     8)
L                                            7A         R*             MP8
R      700.63  700.78      PYRITE IS REPLACING MATRIX MATERIAL.

/      703.73  706.44   2.71            CGCP PY GL      F* B*          IK+   P                                      81     81
L                                            7A         R* H*          JN7
R      703.73  706.44      SOME CHERT PEBBLES ARE BEING REPLACED BY GALENA.  GALENA IS ALSO
R      703.73  706.44      INTERSTITIAL WITHIN THE MATRIX.

/      706.44  708.68   2.24            BRHM PY GR      DB             OP8   P                                      81     8*
L                                            1A                      C IJ+                    <*     C.

/      708.68  709.08   0.40            CGCP            TM F*          JL1   P     IM      U43                      8=     8=
L                                                       R* B*          KP8
R      708.68  709.08      GALENA IS ALSO FOUND WITHIN.

/      709.08  710.68   1.60            BRHT PY GR                     OP6   P                  <*                  81     8*
L                                            3A                    3 C NO1                          C*
R      709.08  710.68      30% OF THESE FRAGMENTS ARE ARSN.

/      710.68  711.58   0.90            CGCP PY GL      F* B*          JP1   P                                      8=     8.
L                                            6A         H*           C LN8                          C*

/      711.58  712.88   1.30            BRHT PY GR                     NO3   P                  <*                  8+
L                                            2A                    3 C LN4                          C*
R      711.58  712.88      30% OF THESE FRAGMENTS ARE ARSN.

/      712.88  715.95   3.07            CGCP PY GL      F* B*          JN=   P                                      81     8+
L                                            6A         H*             LN8                            C* 8+
R      712.88  715.95      GALENA IS FOUND IN THE MATRIX, ACTING AS A REPLACEMENT MINERAL.

/      715.95  720.69   4.74            BRHT PY GR      F*             OQ8   P                  <+                  D)
L                                            2A                        KM1                          C.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      720.69  724.51   3.82            ARSN PY    SI1 DB LM 2 3 4 3       P  1 LM     U65            C.    81    8.
L                                          4A    SN4 BD SS                  2 BD     U65
R      720.69  724.51      BARITE OCCURS ON SOME FRACTURE SURFACES.

/      724.51  725.13   0.62            CHER PR        BR LM               P  1 LM     U78                  8=
L                                          5A        SS                                                      81
R      724.51  725.13      PYRRHOTITE IS BOTH LAMINATED AND INJECTED.

/      725.13  728.06   2.93            MSSD SD IB SD8                     P  7 BD     U70 <+               D=    D+
L                                          T$                                                  M8          8)
R      725.13  728.06      MASSIVE BEDDED SIDERITE.  INTERBEDDED WITH MINOR CHERT BEDS,
R      725.13  728.06      WHICH MAKING UP 10% OF THE INTERVAL.

/      728.06  728.33   0.27            ARSI PY    SI2 LM SS 2 3 1 4       P  1 LM     U65                  D.
L                                          2A    SN1

/      728.33  728.86   0.53            MSSD SD    SD7 MX IB               P                                6=    8)
L                                          T$    CH2                                                 66          D.
R      728.33  728.86      INTERBEDDED WITH A CHERT BED.

/      728.86  730.61   1.75            BRHT           DB            PQ5   P                >2          C.    81
L                                                              1   PQ2
R      728.86  730.61      BADLY DISTURBED BEDDING DUE TO QUARTZ VEINING.

/ V/1  728.98  729.44   0.46          8 VEIN QZ    QZ8                     R                >8
L                                          9A

/      730.61  731.31   0.70            CHER PR SD     DB SS               P                <(                81    8.
L                                          7A        IB                                                 61      8+
R      730.61  731.31      PYRRHOTITE IS MIXED IN WITH THE SIDERITE.  SIDERITE IS INTERBED
R      730.61  731.31      WITH THE CHERT.

/      731.31  733.10   1.79            BRHT PY PR                    PQ2   P                                8=    8.
L                                          4A                   1   PQ6                                      8=
R      731.31  733.10      10% OF THIS INTERVAL IS ARSN FRAGMENT.  CHERT CONTENT IS
R      731.31  733.10      REPRESENTITIVE OF DISTURBED CHERT BEDS.

/      733.10  734.96   1.86            MSSD SD PR SD6 IB SS               P  4 BD     U65                  6+
L                                          T$ PY     DB                                                 65      L+ 8*

/      733.10  734.96   1.86          4 CHER PY PR     IB SS               R  1 LM     U65
L                                          7A        DB

/      734.16  734.46   0.30          X ARSI PY    SI3 SS LM 2 3 1 3       R  1 LM     U65                  D.
L                                          6A    SN1 //
R      734.16  734.46      SECTION REMOVED FOR CORE LIBRARY.  PYRRHOTITE OCCURS PRIMARILY
R      734.16  734.46      AS A LAMINATION AT THE CHERT-ARSN INTERFACE AND BLEBS WITHIN THE
R      734.16  734.46      SIDERITE.

/      734.96  736.00   1.04            CHER PY PR     IB //               P  1 LM     U80                  6+    D.
L                                          7A SD     LM SS                                              L+      8* D.
```

| K E Y | F -L- G | FROM ----.-- | TO ----.-- | INT ---.-- | RECOV ---.-- R Q D | MD % AGE | ROCK EV | TM RN | TM LC | TM | QM1 QM2 | TX | TX | F S | C C | % O | M O | ARG CHT | RI | 1 2 | ID | AZM | DIP | QZ MG | FL MU | CY CL | CA SD | BA QS | XX HA | PY PR | CP MT | GL SL | YY HA | A 1 | A 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| / | | 734.96 | 736.00 | 1.04 | | | 3 | ARGL | PY | | | IB | // | | | | | | R | 1 | LM | | U80 | | | | | | | D. | | | | | |
| L | | | | | | | | | 7A | | | LM | SS | | | | | | | | | | | | | | | | | | | | | | |
| R | | 734.96 | 736.00 | MINOR SIDERITE INTERBEDDED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 736.00 | 736.44 | 0.44 | | | | MSSD | SD | PR | SD6 | IB | LM | | | | | | P | 1 | LM | | U88 | | | | | | | D+ | | | | | |
| L | | | | | | | | | T$ | PY | | // | SS | | | | | | | 3 | BD | | U88 | | | | 65 | | | L) | 8* | | | | |
| / | | 736.00 | 736.44 | 0.44 | | | 4 | CHER | | | | IB | LM | | | | | | R | 1 | LM | | U88 | | | | | | | | | | | | |
| L | | | | | | | | | 7A | | | // | SS | | | | | | | 3 | BD | | U88 | | | | | | | | | | | | |
| / | | 736.44 | 738.84 | 2.40 | | | | ARGL | PY | | | IB | LM | | | | | | P | 1 | LM | | U78 | | | | | | | D. | | | | | |
| L | | | | | | | | | 2A | | | // | SS | | | | | | | 3 | BD | | U78 | | | | L1 | | | L( | D. | | | | |
| / | | 736.44 | 738.84 | 2.40 | | | 4 | CHER | | | | IB | LM | | | | | | R | 1 | LM | | U78 | | | | | | | | | | | | |
| L | | | | | | | | | 7A | | | // | SS | | | | | | | 3 | BD | | U78 | | | | | | | | | | | | |
| / | | 737.74 | 738.04 | 0.30 | | | 6 | MSSD | SD | PR | SD6 | IB | LM | | | | | | R | 3 | BD | | U65 | | | | | | | L( | | | | | |
| L | | | | | | | | | T$ | | | // | SS | | | | | | | | | | | | | | L6 | | | L+ | D( | | | | |
| / | | 737.74 | 738.04 | 0.30 | | | 4 | CHER | | | | IB | LM | | | | | | R | 3 | BD | | U65 | | | | | | | | | | | | |
| L | | | | | | | | | 7A | | | // | SS | | | | | | | | | | | | | | | | | | | | | | |
| K | US2 | 737.00 | 737.00 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 738.84 | 739.34 | 0.50 | | | | MSSD | SD | PR | SD6 | MX | | | | | | | P | | | | | <2 | | | | | | | | <* | | | |
| L | | | | | | | | | T$ | | | | | | | | | | | | | | | | | | 66 | | | 6) | | | | | |
| / | | 738.84 | 739.34 | 0.50 | | | 2 | CHER | | | | DB | | | | | | | R | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | 7A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 739.34 | 739.65 | 0.31 | | | | ARSI | PY | GR | ST1 | LB | BD | 2 | 3 | 2 | 3 | | P | 1 | LM | | U82 | <+ | | | | | | 61 | | | | | |
| L | | | | | | | | | 4A | | SN2 | SS | | | | | | | | 2 | BD | | U82 | | | | | | | | | | | | |
| / | | 739.65 | 739.85 | 0.20 | | | | ARSI | PY | GR | ST1 | DB | BR | 2 | 3 | 2 | 3 | | P | | | | | <= | | C* | | | | 62 | | | | | |
| L | | | | | | | | | 4A | | SN2 | LM | SS | | | | | | | | | | | | | | | | | | | | | | |
| R | | 739.65 | 739.85 | MAY REPRESENT A SHEAR ZONE, DUE TO THE BRECCIATED NATURE OF THE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | | 739.65 | 739.85 | INTERVAL. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 739.85 | 740.14 | 0.29 | | | | MSSD | SD | PR | SD5 | IB | LM | | | | | | P | 1 | LM | | U35 | | | | | | | 6= | | D* | | | |
| L | | | | | | | | | T$ | PY | | SS | | | | | | | | 3 | BD | | U35 | | | | 65 | | | 8= | | | | | |
| / | | 739.85 | 740.14 | 0.29 | | | 4 | ARGL | PY | | | IB | LM | | | | | | R | 1 | LM | | U35 | | | | | | | | | | | | |
| L | | | | | | | | | 4A | | | SS | | | | | | | | 2 | BD | | U35 | | | | | | | | | | | | |
| R | | 739.85 | 740.14 | PYRITE LAMINATIONS AT SIDERITE-ARGL CONTACT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| K | LS2 | 740.14 | 740.14 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| / | | 740.14 | 740.54 | 0.40 | | | | CHER | PY | | | LM | // | | | | | | P | 1 | LM | | U65 | <* | | | | | | 8+ | | | | | |
| L | | | | | | | | | 7A | | | SS | | | | | | | | | | | | | | | | | | 8) | | | | | |
| / | | 740.54 | 741.21 | 0.67 | | | | ARGL | PY | | | LN | SS | | | | | | P | 1 | LM | | U57 | | | | | | | 6= | | | | | |
| L | | | | | | | | | 5A | | | DB | | | | | | | | | | | | | | | | | | | | | | | |

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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE Ev RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/ SHR  741.21  741.86   0.65              FAUL QZ     QZ3                    P                  >3                 81
L                                              6A                                                        63         8*

/ MSD  741.86  746.05   4.19              MSSD SD PR SD6 IB BD               P  5 BD      U60 <)                6=    8=
L                                              T$ GL      // SS                                          66         8+ D.

/      741.86  746.00   4.14            2 CHER            IB BD               R  1 LM      U60
L                                              5A         // SS                  3 BD      U60                    <*
R      741.86  746.05       GALENA IS CONCENTRATED IN THE SIDERITE.

/ MSD  745.85  746.05   0.20            X MSSD SD PR                          R                         D=
L                                              T$ GL                                                     68         61
R      745.85  746.05       REMOVED FOR CORE LIBRARY.

/ CON  746.00  746.01   0.01            X MISS                                R             U55
L
R      746.00  746.01       PHYRRHOTITE LAMINATIONS AT THE SIDERITE-ARSI INTERFACE.

/      746.05  747.87   1.82              ARSN PY PR SI2 LM BD 2 3 1 4       P  1 LM      U65                C.     D*
L                                              3A GR SN1 IB SS                  2 BD      U65                       8+

/      746.05  747.87   1.82            1 CHER            IB LM               R  1 LM      U65
L                                              5A

/      747.87  750.31   2.44              CHER PY PR      IB LM               P  1 LM      U85                C*     D*
L                                              5A         DB SS                  2 BD      U85                       8+

/      747.87  750.31   2.44            2 ARGL PY         IB LM               R  1 LM      U85                       D.
L                                              4A         DB SS                  2 BD      U85

/      747.97  747.98   0.01            X CHER PY PR      IB LM               R  1 LM      U85                C*     D*
L                                              5A         DB SS                  2 BD      U85                       8+

/      748.53  749.71   1.18            X CHER PY PR PY1 DB                   R                                      81
L                                              T$                                                                    82

/      748.53  749.71   1.18            X CHER PY PR PY1 DB                   R                                      81
L                                              T$     PR2                                                            82
R      748.53  749.71       POSSIBLE FRACTURE FILL OF THE DISORGANIZED BEDS AT THIS POINT.

/      749.02  749.03   0.01            X CHER PY PR      IB LM               R  1 LM      U70                C*     D*
L                                                                                2 BD      U70

/      749.02  749.03   0.01            X CHER PY PR      IB LM               R  1 LM      U70                C*     D*
L                                                                                2 BD      U70

/      749.80  749.81   0.01            X CHER PY PR      IB LM               R  1 LM      U68                C*     D*
L                                                                                2 BD      U68
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# G E O L O G  E D I T  L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAN OCEAN OIL LTD.
JASON PB-ZN-AG-BA STF DEPOSIT, Y.T.

FORMAT VERSION : 6802

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DRILLHOLE/TRAVERSE : | 81EWH068 | COLLAR ELEVATION: | 1275.94 | AZIMUTH( DEG ) : | 0.00 | GEOLOGGED BY : | JDK + |
| TOTAL DEPTH/LENGTH : | 980.54 | NORTHING(- IF S): | 7002472.00 | VERTICAL ANGLE : | -90.00 | DATE (YY/MM/DD): | 811009 |
| CORE/HOLE DIAMETER : | HQNQ | EASTING (- IF W): | 436496.25 | CO-ORD SYSTEM : | UTM | PROJECT NUMBER : | JASON |

| SEQ. NO OF SURVEY DATA | LENGTH FROM COLLAR TO SURVEY POINT | AZIMUTH ( DEG ) | VERT. ANGLE ( DEG ) |
|---|---|---|---|
| 1 | 30.00 | 146.90 | -89.47 |
| 2 | 58.52 | 145.00 | -87.25 |
| 3 | 78.94 | 144.00 | -85.33 |
| 4 | 100.58 | 164.00 | -83.00 |
| 5 | 118.87 | 130.00 | -82.00 |
| 6 | 137.16 | 119.00 | -80.00 |
| 7 | 152.40 | 114.00 | -78.00 |
| 8 | 167.64 | 137.00 | -76.67 |
| 9 | 176.48 | 114.00 | -76.00 |
| 10 | 198.12 | 121.00 | -75.00 |
| 11 | 222.20 | 122.00 | -74.00 |
| 12 | 246.27 | 129.00 | -71.67 |
| 13 | 260.27 | 129.00 | -71.67 |
| 14 | 280.72 | 128.00 | -69.67 |
| 15 | 306.02 | 125.00 | -68.75 |
| 16 | 327.96 | 127.00 | -68.25 |
| 17 | 350.82 | 127.00 | -67.67 |
| 18 | 369.72 | 124.00 | -66.50 |
| 19 | 383.13 | 128.00 | -66.00 |
| 20 | 389.84 | 130.00 | -60.50 |
| 21 | 403.86 | 132.00 | -65.50 |
| 22 | 420.93 | 132.00 | -65.25 |
| 23 | 424.89 | 132.00 | -64.75 |
| 24 | 434.34 | 134.25 | -64.25 |
| 25 | 445.31 | 136.00 | -63.00 |
| 26 | 466.95 | 133.00 | -61.00 |
| 27 | 489.51 | 136.00 | -56.67 |
| 28 | 503.53 | 134.00 | -55.50 |
| 29 | 528.32 | 137.00 | -53.66 |
| 30 | 544.07 | 137.00 | -53.33 |
| 31 | 559.00 | 137.00 | -53.25 |
| 32 | 573.63 | 139.00 | -52.00 |

| | | |
|---|---|---|
| 33 | 587.65 | 137.00 | -51.50 |
| 34 | 602.59 | 139.00 | -50.50 |
| 35 | 618.74 | 136.00 | -50.33 |
| 36 | 632.76 | 136.00 | -50.33 |
| 37 | 646.78 | 137.00 | -51.00 |
| 38 | 665.99 | 137.50 | -50.00 |
| 39 | 689.76 | 133.00 | -47.00 |
| 40 | 696.16 | 133.00 | -46.75 |
| 41 | 711.10 | 133.00 | -45.00 |
| 42 | 726.34 | 131.00 | -47.50 |
| 43 | 744.32 | 134.00 | -44.75 |
| 44 | 748.28 | 133.00 | -44.25 |
| 45 | 760.47 | 129.00 | -44.50 |
| 46 | 772.67 | 129.00 | -44.50 |
| 47 | 784.86 | 129.00 | -44.50 |
| 48 | 797.05 | 128.50 | -44.00 |
| 49 | 809.24 | 128.50 | -43.50 |
| 50 | 821.43 | 128.00 | -42.75 |
| 51 | 833.63 | 127.50 | -42.50 |
| 52 | 845.82 | 127.00 | -42.33 |
| 53 | 858.01 | 127.50 | -42.00 |
| 54 | 870.20 | 127.50 | -42.00 |
| 55 | 882.40 | 127.00 | -41.00 |
| 56 | 894.59 | 127.00 | -40.50 |
| 57 | 906.78 | 126.50 | -39.00 |
| 58 | 918.97 | 126.50 | -38.75 |
| 59 | 931.16 | 126.50 | -38.00 |
| 60 | 943.36 | 126.50 | -37.25 |
| 61 | 955.55 | 126.50 | -37.00 |
| 62 | 967.74 | 126.50 | -36.75 |
| 63 | 979.93 | 126.50 | -36.75 |

| K E Y | F L A G | - I N T E R V A L - (UNITS = (MT=METRIC FT=FOOTRIC) F R O M - T O - . DEC.PLACE) | | CORE RECOV- ERY ( . ) | T- % M M O I D X TYPE | ROCK | TYPI- FYING TM 1 | QAL MIN TM 2 | MAT QM1 | TEX- TURES TX 1 | TX 2 | GRAIN CHARACS F F | C C | % C | M A | ARG | PGI /RI | T 1 | STRUCTUR-1 ID | STK AZM | DIP RT | ALTERATION MINS H QZ | H FL | H CY | H CA | H BA | ANY XX | ORE-TYPE MINS H PY | H CP | H GL | ANY YY | SUMMARY ALT A | ORE 1 | ALT A | ORE 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K E Y | F L G | | | ROCK QUAL DESIG | FM AGE | RT EN- Q VIR | LC- COL | TM 3 | QM2 | TX 3 | TX 4 | S C O R | | O / C | | CHT | | T 2 | ID STRUCTUR-2 | STK AZM | DIP RT | MG H A | MU H A | CL H A | SD H A | QS H A | HA H A | PR H A | MT H A | SL H A | HA H A | 1 | 2 | 1 | 2 |

| | | | |
|---|---|---|---|
| R | SVY | 0.00 | 0.00 | READING BY SPERRY SUN SINGLE SHOT AND MULTI-SHOT, EXCEPT FOR |
| R | SVY | 0.00 | 0.00 | S001 WITH WAS DONE BY GYROSCOPIC DIRECTIONAL SURVEY. |
| R | SVY | 58.52 | 58.52 | BEGINNING OF WEDGED HOLE D. |
| R | SVY | 58.52 | 58.52 | HALL AND ROWE STEEL WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 181.66 | 181.66 | CLAP RETRIEVABLE WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 200.25 | 200.25 | CLAP RETRIEVABLE WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 230.43 | 230.43 | CLAP RETRIEVABLE WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 249.63 | 249.63 | CLAP RETRIEVABLE WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 260.27 | 260.27 | END OF WEDGED HOLE D. |
| R | SVY | 260.27 | 260.27 | BEGINNING OF WEDGED HOLE E. |
| R | SVY | 260.27 | 260.27 | HALL AND ROWE STEEL WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 383.13 | 389.84 | AZIMUTH FOR S019 HAS NOT BEEN USED DUE TO MAGNETICS. |
| R | SVY | 389.84 | 420.93 | SURVEY S020 AND S021 ALSO HAVE BEEN AFFECTED BY MAGNETICS, |
| R | SVY | 389.84 | 420.93 | AND THERE AZIMUTH HAS BEEN EXTRAPOLATED. |
| R | SVY | 470.00 | 470.00 | 1/2+1/2 WEDGE TO THE RIGHT. |
| R | SVY | 503.53 | 503.53 | CLAP RETRIEVABLE WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 673.91 | 673.91 | CLAP RETRIEVABLE WEDGE - FULL AZIMUTH TO THE RIGHT. |
| R | SVY | 0.00 | 0.00 | THE FIRST AND THIRD READINGS BELOW ARE FROM SINGLE SHOT |
| R | SVY | 0.00 | 0.00 | SURVEYS AND ARE LESS ACCURATE THAN THE GYROSCOPIC SURVEY. |
| R | SVY | 0.00 | 0.00 | THEREFORE THEY SHOULD NOT BE USED IN PLOTTING THE HOLE. |

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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R O D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R SVY   24.38   30.48                 49.00-89.50
R SVY   30.48   48.77                146.90-89.47   GYROSCOPIC SURVEY DATA
R SVY   48.77   58.52                119.00-89.67

/        0.00  262.74 262.74            MISS                              P

/      262.74  267.16   4.42            BRHM PY        B* F*        OQ8   P                                  D)
L                                         3A                2   2   JM+
R      262.74  267.16      20% OF THIS INTERVAL IS REPRESENTED BY SANDSTONE AND ARSN
R      262.74  267.16      FRAGMENTS.

/      267.16  295.88  28.72            BRHT PY        B* F*        MQ6   P                <.                 D)
L                                                          2   2   JP2                          C. D. <.

/      267.16  267.84   0.68          X CGCP PY        F*           LN9   R                <*                 D*
L                                         7A                3 5     JM1

/      286.00  287.27   1.27          X BRPM PY                     NP3   R                                    D)
L                                         2A                                                     D.

/      287.27  294.64   7.37          X CGBR PY        F*           NQ5   R                                    D)
L                                         7A                3 4     NP5
R      287.27  294.64      10% OF THIS INTERVAL IS REPRESENTED BY SANDSTONES AND ARSN
R      287.27  294.64      FRAGMENTS.

/      295.88  317.70  21.82            BRHT PY        F* H*        NS5   P                <*                 D)
L                                         4A                1 2     JO3                          6*
R      295.88  317.70      20% OF THIS INTERVAL IS REPRESENTED BY SANDSTONE AND ARSN
R      295.88  317.70      CONGLOMERATIC MUDSTONE FRAGMENTS.  CHERT CONTENT DECREASING DOWN
R      295.88  317.70       HOLE.

/ FRG  297.50  298.40   0.90          X CGPS                        LN3   R
L                                                                    LM4

/      309.27  311.19   1.92          X BRHT PY        F*           NP5   R                <*                 D)
L                                         3A                4   JL1                          C.
R      309.27  311.19      40% OF THIS INTERVAL IS REPRESENTED BY SANDSTONE AND ARSN
R      309.27  311.19      FRAGMENTS.

/      317.70  320.60   2.90            BRPM PY        IM           JN4   P    IM     U75                    D)
L                                         2A                0 JN+
R      317.70  320.60      IMBRICATION REPRESENTS FLOW FABRIC.

/      320.60  330.30   9.70            BRHM PY    *S1 F* H*        OQ8   P                                  D)
L                                         3A        B*      +      JM+

/      321.66  322.01   0.35          X SAND PY    SI2        3 4 6 5      R                <.                 D)
L                                         8A    SN6                                                  6)

/      330.30  332.23   1.93            CGSN PY        F* B*        NP4   P                                  D(
L                                         5A                      JN6
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      332.23  339.25   7.02            BRHT PY GR      F*            PR5   P                                  D)
L                                             3A                  3 C JN1                        C.

/      335.12  335.75   0.63          X BRPM PY                       JK2   R                                  D(
L                                             4A                      JK3

/      339.25  349.97  10.72            BRHM PY                       QP9   P                                  D)
L                                             2A                      LN*                        C.

/      349.97  391.36  41.39            ARSI PY     SI= // BD               P  1 LM     U55 <(                 8+
L                                             2A     SN= LM SS                  2 BD     U55        C.

/      363.93  363.96   0.03          X ARSI PY     SI= // BD               R  1 LM     U60 <(                 8+
L                                             2A     SN= LM SS                  2 BD     U60        C.

/      371.50  371.60   0.10          X ARSI PY     SI= // BD               R  1 LM     U82 <(                 8+
L                                             2A     SN= LM SS                  2 BD     U82        C.

/      379.63  379.73   0.10          X ARSI PY     SI= // BD               R  1 LM     U80 <(                 8+
L                                             2A     SN= LM SS                  2 BD     U80        C.

/      385.27  385.37   0.10          X ARSI PY     SI= // BD               R  1 LM     U81 <(                 8+
L                                             2A     SN= LM SS                  2 BD     U81        C.

/      389.20  389.30   0.10          X ARSI PY     SI= // BD               R  1 LM     U80 <(                 8+
L                                             2A     SN= LM SS                  2 BD     U80        C.

/      391.36  392.62   1.26            BRHM PY     *C* F* B*           NQ8   P                                  D.
L                                             1A                         KN=                        C.

/      392.62  398.80   6.18            SAND PY     SN7 R* F* 3 J 3 N         P                <(               D*
L                                             6A                 5     C

/      398.80  423.78  24.98            BRHT PY         F*            PR7   P                                  D.
L                                             3A                  2 C JO1                        C.

/ FRG  401.01  402.21   1.20          X SAND PY     SI4 LC G; 2 4 6 5       R  3 BD     D43                    D.
L                                             5A     SN6 FU //
R      401.01  402.21       SEVERAL FU CYCLES / TOPS DOWN HOLE-SLUMPED TURBIDITE SEQUENCE.
R      401.01  402.21       THESE CYCLES FORM PART OF COARSENING UPWARD MEGASEQUENCE
R      401.01  402.21       INDICATED BY INCREASING THICKNESS OF COARSE CLAST INTERVLAS

/      423.78  430.99   7.21            ARSI PY     SI1 // SS 2 3 1 3       P  1 LM     U70                    D*
L                                             3A     SN1 LM PH                  2 BD     U7         C.

/      430.99  434.63   3.64            BRHM PY CR *S4 F* H*          PQ5   P                                  D)
L                                             3A                  4 C JL=                        C.
R      430.99  434.63       40% OF THIS INTERVAL IS REPRESENTED BY SANDSTONE AND ARSN
R      430.99  434.63       FRAGMENTS.

/      434.63  436.64   2.01            ARSI PY GR SI1 PH // 2 3   3    P  1 LM     U85                    D*
L                                             2A         SS LM                  2 BD     U85        C.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       436.64  437.39   0.75              BRHM PY     *S4                OP6   P                                    D*
L                                               3A                        0                        C.

/       437.39  442.67   5.28              ARSI PY GR SI1 LM BD 2 4 1 4       P  1 LM     U50                        D)
L                                               4A     SN1 SS PH                2 BD     U50       C.
/       442.67  445.92   3.25              BRHM PY                        OQ8   P                                    D*
L                                               3A                 2      0                        C.
R       442.67  445.92       20% OF THIS INTERVAL IS REPRESENTED BY SANDSTONE AND ARSN
R       442.67  445.92       FRAGMENTS.

/       445.92  449.28   3.36              ARSN PY     SI1 LM BD 2 4 1 4       P  1 LM     U55                        D*
L                                               4A     SN2 // SS                2 BD     U55       C.
/       449.28  453.50   4.22              BRHM PY     *S=                PR9   P                                    D)
L                                               2A                        JK=                      C.
/       453.50  474.50  21.00              BRPM PY     SN2 F* R*          NS4   P                <*                  8)
L                                               4A         H* B*    +   0 LM3                      C.     <(    D)     8.
R       453.50  474.50       SPHALERITE OCCURS WITHIN FRACTURED CHERT PEBBLES BEING
R       453.50  474.50       CONTROLLED BY QUARTZ VEINNING.
R       453.50  474.50       SIMILAR SPHALERITE ASSOCIATIONS WERE SEEN IN 81-68C, WELL ABOVE
R       453.50  474.50       THE ORE ZONE.  INCREASING SAND CONTACT BASE (DOWNHOLE).

/       470.00  471.83   1.83            X WEDG                             R
L

/       474.50  484.68  10.18              BRHT PY     SN3 M; B*          OQ3   P                                    D*
L                                               6A         H* R*          MO4
R       474.50  484.68       BASE OF SEQUENCE GRADES TO BRPM LOCALLY.

/       484.68  491.57   6.89              BRHM PY         DB             RS9   P                                    8)
L                                               2A

/       491.57  497.18   5.61              BRHM PY     *S= F* B*          QR8   P                                    D)
L                                               3A         H*             KM=

/       497.18  533.29  36.11              ARSI PY     SI2 LM BD 2 3 1 4       P  1 LM     U40           <.          D* D. D.
L                                               3A     SN1 SS DB                2 BD     U40       C.     <*           D.
R       497.18  533.29       TOWARDS THE TOP OF THIS INTERVAL BEDS ARE DISTURBED AND SLIGHTLY
R       497.18  533.29       FRAGMENTED; FRAGMENTS ARE NOT ROTATED.
R       497.18  533.29       STIBNITE ALSO OCCURS WITHIN QUARTZ-SIDERITE.
R       497.18  533.29       THE INTERVAL IS ALSO PHYLLITIC LOCALLY.

/       500.00  500.01   0.01            X ARSI PY     SI2 LM BD 2 3 1 4       R  2 BD     U90           <.          D* D. D.
L

/       502.00  503.53   1.53            X WEDG                             R           U72
L                                                                                      U72

/       505.05  505.06   0.01            X ARSI PY     SI2 LM BD 2 3 1 4       R  2 BD     U80           <.          D* D. D.
L
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      509.63  509.64   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U64          <.       D* D. D.
L                                                                             2 BD     U64

/      514.50  514.51   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U54          <.       D* D. D.
L                                                                             2 BD     U54

/      519.99  520.00   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U61          <.       D* D. D.
L                                                                             2 BD     U61

/      525.17  525.18   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U66          <.       D* D. D.
L                                                                             2 BD     U66

/ FLT  525.50  525.55   0.05          X GAUG       GG*                     R
L                                            2A

/      527.00  527.01   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U68          <.       D* D. D.
L                                                                             2 BD     U68

/      529.00  529.01   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U40          <.       D* D. D.
L                                                                             2 BD     U40

/      530.00  530.01   0.01          X ARSI PY    SI2 LM BD 2 3 1 4       R  1 LM     U40          <.       D* D. D.
L                                                                             2 BD

/      533.29  535.17   1.88            ARGL       SI1 MX    0 3 1 3       P                                   D.
L                                            2A                                                     C.

/      535.17  551.69  16.52            ARSI QS        LM DB 0 4 = 4       P  1 BD     T50                     D.
L                                            3A        SS BD                  3 BD     B20      C.    >( C.
R      535.17  551.69      BEDS ARE LOCALLY DISTURBED, POSSIBLY DUE TO DEWATERING.
R      535.17  551.69      THERE IS A CHANGE IN CORE TO BEDDING ANGLES FROM TOP TO BOTTOM
R      535.17  551.69      OF INTERVAL -ALSO THERE ARE LOCAL FRAGMENTS- HOWEVER,
R      535.17  551.69      DEFORMATION APPEARS TO BE LOCAL SLUMPING AND IS NOT WIDESPREAD
R      535.17  551.69      ENOUGH TO BE A BRHM.

/      548.62  549.25   0.63          3 VEIN QS                          R    V/      90 >3                  D-
L
R      548.62  549.25      VEIN IS PARLLEL TO CORE AXIS - IT COMPRISES 30% OF INTERVAL
R      548.62  549.25      WITH OTHER 70% BEING ARSI.

/      549.25  549.25   0.00          X ARSI QS        LM DB 0 4 = 4       R  2 BD     T55                     D.

/      550.44  551.19   0.75          2 VEIN QS                          R    V/      90 >2                  D-
L
R      550.44  551.19      VEIN IS PARALLEL TO CORE AXIS - IT COMPRISES 20% OF INTERVAL
R      550.44  551.19      WITH OTHER 80% BEING ARSI.

/      551.40  551.40   0.00          X ARSI QS        LM DB 0 4 = 4       R  1 BD     T60                     D.

/      551.69  564.56  12.87            ARSI PY    SN= SS    0 2 2 2       P                                   D-
L                                            4A    SI2       2                                  C.    V-
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       551.69  564.56      INTERVAL IS LOCALLY RUBBLY-MINOR QS VEINS WITH LOCAL BRECCIA-
R       551.69  564.56      TION.  INTERVAL IS COMPRISED MAINLY OF A NUMBER OF LARGE ARSI
R       551.69  564.56      BLOCK VARIATIONS IN CORE TO BEDDING ANGLES AND SMALL FRAGS
R       551.69  564.56      INDICATE MINOR DISTURBANCE.

/       553.00  553.00   0.00          X ARSI PY    SN= SS    0 2 2 2       R    BD            90              D-

/       555.00  555.00   0.00          X ARSI PY    SN= SS    0 2 2 2       R    BD      80                    D-

/       564.00  564.00   0.00          X ARSI PY    SN= SS    0 2 2 2       R    BD      60                    D-

/       564.56  576.09  11.53            BRHM PY    *S.                QS9   P                <-                D.
L                                            4A              2 - .   MN-                          C.
R       564.56  576.09      THE MAJORITY OF THE CLASTS ARE ARSI - VARRYING CORE TO BEDDING.
R       564.56  576.09      ANGLES INDICATE THAT THESE ARE CLASTS AS OPPOSED TO DEPOSITIONAL
R       564.56  576.09      UNITS.  CORE IS LOCALLY RUBBLY.  A NUMBER OF IRREGULAR QUARTZ
R       564.56  576.09      VEIN-LETS ARE PRESENT.  THIS INTERVAL IS MORE DISRUBTED AND
R       564.56  576.09      DEVELOPED THAN THE ABOVE INTERVAL.

/       564.00  564.01   0.01          X BRHM PY    *S.                QS9   R    BD      60 <-                D.

K UDF   576.09  576.09   0.00

/       576.09  583.44   7.35            BRPM PY    *C. F* R*          QS8   P                                R.
L                                            4A    *S+       2 = * O MO1                          C.
R       576.09  583.44      INTERVAL IS GRADATIONAL FROM A BRHT TO A BRPM AT THE TOP.
R       576.09  583.44      ONE LARGE CARBONACEOUS ARGL FRAGMENTS IS PRESENT.

/ FRG   579.98  580.85   0.87          X ARGL CR PY           0 3 = 3       R                                <-
L                                            2A                                                   C.

/       583.44  591.43   7.99            CGXX PY    SN1 H*             OP2   P            U   >-                D.
L                                            5A    *C. F*    2        NO6
R       583.44  591.43      THE SERIES OF TURB SEQUENCES CONSIST OF CLOSE PACKED LARGE
R       583.44  591.43      PEBBLES AT BASE SEPARATED BY ARSI INTERVALS.  3 DISTINCT
R       583.44  591.43      CGXX/ARSI PAIRINGS HAVE BEEN RECOGNIZED.  THE ARSI BEDS ARE
R       583.44  591.43      BOUNDED BY A SHARP PLANAR CONTACT AT BASE AND AN IRREGULAR
R       583.44  591.43      CONTACT (LOAD CASTING?) AT THE TOP OF THE BED. THE ARSI UNITS
R       583.44  591.43      MAY ALSO BE INTERPRETED AS FRAGMENTS WITHIN THE CGXX FLOW UNIT.
R       591.43  602.24      NUMEROUS QUARTZ AND PYRITE VEINS ARE FOUND THROUGHOUT THE
R       591.43  602.24      INTERVAL.  INTERVAL IS LOCALLY RUBBLY.  A CONG CLAST WITH
R       591.43  602.24      ROUNDED PEBBLES IS FOUND IN THIS INTERVAL, THIS IS A POSSIBLE
R       591.43  602.24      MARKER.

/       591.43  619.70  28.27            BRHT       *C. R*             PU4   P                                D-
L                                            4A    SN2 B*    2 +      LO5

/       591.43  602.24  10.81          X BRHT       *S-                NT7   R                V-                V.
L                                            4A              2 ( -   MO2                          C.
R       591.43  619.70      INTERVAL IS DISTINCTIVE IN THAT.  THE MATRIX IS SANDY;
R       591.43  619.70      ONE LARGE ARGL FRAG IS REPEATED.  INTERVAL CONTAINS AT LEAST
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       591.43  619.70      THREE CONG FRAGS WITH ROUNDED CLASTS.  SEVERAL CHERT FRAGS
R       591.43  619.70      HAVE BEEN ALMOST COMPLETELY REPLACED BY PYRITE.

/ FRG   604.98  607.86   2.88          X ARGL                  0 3 / 7       R                <.                  <.
L                                          4A
R       604.98  607.86      INTERVAL IS COMPRISED OF ONE LARGE AND AT LEAST THREE SMALLER
R       604.98  607.86      FRAGS SEPARATED BY NARROW BRPM INTERVALS; LARGE FRAG IS 2 M LONG

/       619.70  653.49  33.79            BRPM GR     SN2 F* H*         PS6   P                <.                  D-
L                                          4A     *C- B*    2        MO2                          C.
R       619.70  653.49      RUBBLY BROKEN CORE.  INCREASING SAND CONTACT NEAR BASE OF INTERV
R       619.70  653.49      AL (TWO SANDY INTERVALS).

/       636.00  637.00   1.00          X SAND                  3 3 0 4       R
L                                          6A

/ SHR   642.00  653.49  11.49          X BRPM GR     GG2 F* H*         PS6   R                <.                  D-
L
R       653.49  655.08      VEINS MAINLY QUARTZ WITH SOME CALCIC DOLOMITE.  THE VEIN HAS
R       653.49  655.08      BRECCIATED THE MOST ROCK.  LOCALLY, SOME ARGL FRAGS HAVE BEEN
R       653.49  655.08      SILICIFIED.

/       653.49  663.70  10.21            BRHT        *C. H*            QT9   P                V=                  R(
L                                          3A     *S. R*            MO=                          C.

/       653.49  655.08   1.59          7 VEIN SF PY                          R                V7        V.        D.
L                                          4A
R       653.49  663.70      UPPER PART OF INTERVAL (APPROX 3 M) IS CUT BY NUMEROUS QUARTZ
R       653.49  663.70      WITH MINOR CARBONATE VEINS; THE LARGEST OF THESE (1 M LONG) HAS
R       653.49  663.70      BRECCIATED THE INTERVAL AND IS REPEATED.

/       663.70  673.91  10.21            CGCP        *C. H* B*         MO1   P                V.                  D.
L                                          6A         F*            MO8                          C.
R       663.70  673.91      INTERVAL IS POORLY SORTED.  TIGHLY PACKED CHERT AND ARGL FRAG
R       663.70  673.91      AT ABOUT 616 M.  THERE IS AN ABRUPT CHANGE TO A SANDY MATRIX AND
R       663.70  673.91      LARGER ARGL FRAGS IN CONTACT WITH ABOVE UNIT.

K LDF   673.91  673.91   0.00

/       673.91  688.54  14.63            BRHM        *S- F*            PT9   P                <.                  D.
L                                          4A     *C. H*      - -   MP1                          C.

/       673.91  675.44   1.53          X WEDG                                R
L

/ FRG   677.28  680.32   3.04          X ARGL                  0 3 1 3       R                <.                  D.
L                                          4A                                                      C.
R       677.28  680.32      APPEARS TO BE A LARGE FRAG.

/       684.46  686.94   2.48          X ARGL                  0 3 1 3       R                <.                  D.
L                                          4A                                                  C.
```

```
K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       684.46  686.94      APPEARS TO BE A LARGE FRAG.

/       688.54  723.59  35.05            ARGL GR    GG2 LM                  P  1 LM      90 <.                  D-
L                                           3A                                                  C.
R       688.54  723.59      BADLY BROKEN CORE.  DRILLING PARALLEL TO STRONG BEDDING
R       688.54  723.59      FOLIATION.

/ FLT   689.30  693.42   4.12          X FAUL       GG9                     R
L

/ SHR   720.24  722.38   2.14          7 VEIN GR                            R                >7                  D)
L                                           6A
R       720.24  722.38      INTERVAL IS COMPLETELY BROKEN AND IS HARD TO DESCRIBE,
R       720.24  722.38      IT IS A LARGE QUARTZ VEIN INTRUDED INTO ARGL.

/ FLT   722.38  723.59   1.21          X FAUL CR    GGX                     R
L                                           2A
R       722.38  723.59      INTERVAL IS CARBONACEOUS GOUGE,IT APPEARS TO HAVE BEEN A ARGL.

/       723.59  726.15   2.56            CGBR PY    SN4 F*            NR2   P                <-                  <.
L                                           5A    *C2 H*    3       MO8                                      C.
R       723.59  726.15      INTERVAL IS LARGELY CHART FRAGS WITH SOME ARGL FRAGS IN A MATRIX
R       723.59  726.15      OF ANGULAR CHERT GRIT.

/       726.15  735.11   8.96            BRHT       *S- F* R*         QR4   P                <.                  R.
L                                           4A    *C. B*    2 + -   MO4                          C.       C.
R       726.15  735.11      INTERVAL IS A HETEROGENUOUS BRECCIA WITH CHERT, ARGL, LARGE CONG
R       726.15  735.11      AND SAND FRAGS.  SEVERAL ARGL FRAGS EXHIBIT SILIFICATION PRIOR
R       726.15  735.11      TO DEPOSITION.  SOME PY REPLACEMENT OF CHERT IS EVIDENT.

/       735.11  747.90  12.79            ARGL CR        MX    0 3 = 3      P                <-                  <-
L                                           2A                                                  C-       C.
R       735.11  747.90      INTERVAL IS A MASSIVE BLACK ARGL.  THERE IS EXTENSIVE QUARTZ
R       735.11  747.90      MICROVEINING.  OFTEN THE VEINS ARE PYRITIC, AS WELL LOCALLY THE
R       735.11  747.90      VEINLETS HAVE BRECCIATED THE ARGL.  AT 739.75 M, 10 CM OF BRHT
R       735.11  747.90      IS PRESENT, HOWEVER THE ENDS OF THE FRAG DO NOT APPEAR TO MATCH
R       735.11  747.90      THE ADJOINING CORE.

/       747.90  751.00   3.10            BRHM CR        SS            OQ9   P                <.                  R.
L                                           3A              2 .     JM-                          C.       C.
R       747.90  751.00      INTERVAL IS LOCALLY BROKEN.  CONSEQUENTLY IT IS SOMETIMES
R       747.90  751.00      DIFFICULT TO OBSERVE THE NATURE OF THE CORE.  AT TOP OF INTERVAL
R       747.90  751.00      THERE ARE SOME CHART AND CONGLOMERATE FRAGS, THE REST OF
R       747.90  751.00      INTERVAL IS ARGL BRECCIA (BRHM).

/       751.00  757.20   6.20            BRHT PY GR SN1 F* B*         PS6   P                <.                  R(
L                                           3A        R*    2       LO3                          C.
R       751.00  757.20      MOST OF THE CHERT OCCURS IN FRAGMENTS OF SAND.

/       757.20  763.00   5.80            BRHM                         RS9   P                                      D(
L                                           2A
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RW LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       763.00  775.18  12.18            BRHM CR PY                    OP8   P                 <.                      D)
L                                        3A                            LN+                             C.    <. C.
R       763.00  775.18      BRECCIA IS COMPOSED OF ARSI FRAGMENTS. CORE IS VERY RUBBLY.

/ FLT   775.13  775.18   0.05          X FAUL                           R
L                                        3A

/       775.18  779.15   3.97            BRHT PY     SN3 F* B*         P07   P                                   6)
L                                        4A          R*       3        L03
R       775.18  779.15      CHERT OCCURS IN SANDSTONE FRAGMENTS.

/       779.15  789.02   9.87            BRHM PY CR      CC            OP9   P                           C.      8+
L                                        2A                            JK+                                   C.
/       789.02  807.42  18.40            BRHT PY                       OQ6   P                                   8+
L                                        4A                   +        L03                             <) C.

/       792.28  792.50   0.22          X BRXX SD PY      VG            MO8   R                 <+                8=
L                                        4A                                                      <+
/       794.11  796.82   2.71          X ARGL CR         MX                  R                                     D.
L                                        1A
R       794.11  796.82      LARGE FRAGMENT.  CORE BROKEN BETWEEN 794.33 - 795.22 M.

/       807.42  814.81   7.39            BRHM CR GR      B* F*         OP9   P                 <.                6)
L                                        4A          R*         =      KM=                             <)
R       807.42  814.81      MANY OF THE ARGILLITE FRAGMENTS ARE CARBONACEOUS.

/       814.81  827.25  12.44            BRHM PY SF      B* F*         PQ9   P                 <)                <)
L                                        2A          H* R*      +      LN+                             <)
R       814.81  827.25      MANY OF THE ARGILLITE FRAGMENTS ARE SILICIFIED.

/ FLT   822.80  822.95   0.15          X GAUG                           R
L

/       827.25  829.97   2.72            BRHM GR SF *S= F* R*          N09   P                 <.          C.    R*    6.
L                                        4A          B*                JK=                           6*    C.        6*
R       827.25  829.97      5% OF THIS UNIT IS COMPOSED OF SANDSTONE FRAGMENTS WHICH ARE
R       827.25  829.97      PYRITE RIMED AND CORE AREAS ARE REPLACED BY SPHALERITE AND
R       827.25  829.97      SIDERITE.

/       829.97  833.72   3.75            ARGL PY     SI2                   P  1              <.          C.    D*
L                                        4A                                                          <. C.
R       829.97  833.72      MAY REPRESENT A LARGE FRAGMENT OF SILTY ARGL COMPOSED OF FN SILT
R       829.97  833.72      MEDIUM GRAINED SAND.

K US1   833.72  833.72   0.00

/       833.72  843.60   9.88            FGSX CR BA CH* SS BR          P                 <+          C*    #=    D*
L                                        4A PY         LM                                                      #+
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       833.72  843.60      UNIT IS DONIMANTLY ARGILLITE WITH LOCAL LAM SULPHIDES.
R       833.72  843.60      UNIT HAS SUBSEQUENTLY UNDERGONE SOFT SEDIMENT DEFORMATION
R       833.72  843.60      RESULTING IN SLUMP TEXTURES AND BRECCIATION.
R       833.72  843.60      SULPHIDE MUD HAS BEEN REWORKED INTO BRECCIA INTERSTICES - STRONG
R       833.72  843.60      OVERPRINTINGHAS RESULTED IN BRECCIATION AND IN FILLING BY QZ/BA
R       833.72  843.60      VEINING WITH MINOR SL, GL AND PY.  HIGH APPARENT S.G OF ARGL AND
R       833.72  843.60      PRESENCE OF BARITE SLIPS SUGGEST A HIGH BARIUM CONTENT IN THE
R       833.72  843.60      ARGILLITE ALTHOUGH THIS IS NOT EVIDENT MEGASCOPICALLY.
R       833.72  843.60      NO DISCRET BARITE BANDS ARE PRESENT. DISRUPTED CHERT BANDS
R       833.72  843.60      OCCUR LOCALLY.

/       841.33  841.65   0.32          X ARGL CR     SI1 MX                R
L

/       841.65  842.54   0.89          X LMSX        PY1 SS BR             R                                  L1
L                                                                                                                  L=
R       841.65  842.54      THIS INTERVAL EXHIBITS STRONG LAMINATED CHARACTER.
R       841.65  842.54      EXCELLENT PRIMARY TEXTURES SHOW DISTURBED BEDDING FEATURES.

K LS1   843.60  843.60   0.00

/       843.60  853.50   9.90            BRHM PY                     QS9   P                <.          C.     D*
L                                          4A                                                              C.
R       843.60  853.50      THE ARGILLITE IS AN ARSI WITH 10% SILT AND SAND.

/ SHR   852.27  853.50   1.23          X FAUL        GG2                   R
L                                          2A

/       853.50  859.84   6.34            BRHM PY     *S3             PQ6   P                <*       <. C.     D)
L                                          4A                  1
R       853.50  859.84      10% OF THIS INTERVAL IS INTERBEDDED CHERT.

/ SHR   859.74  859.84   0.10          X FAUL                              R
L                                          2A

/       859.84  866.24   6.40            ARSI PY CR      LM BD             P  1 LM     U50 <(                6*
L                                          4A         SS                     2 BD     U50
R       859.84  866.24      UNIT IS SLIGHTLY CARBONACEOUS.  AN UNKNOWN BLACK MINERAL OCCURS
R       859.84  866.24      IN SOME OF THE QUARTZ VEINS. PYRITE ALSO OCCURS WITHIN THE
R       859.84  866.24      CENTRAL PART OF THE QUARTZ VEINS.

/       866.24  870.72   4.48            SAND PY         MX BD             P  2 BD     U55                   D)
L                                          7A

/       866.24  866.34   0.10          X BRHT PY         R* B* 3 4 5 4 LN5 R                                  D+
L                                          6A         F*            LM5

/       868.00  868.00   0.00          X SAND PY         MX BD             R  2 BD     U60                   D)

/       870.00  870.00   0.00          X SAND PY         MX BD             R  2 BD     U60                   D)

/       870.72  879.79   9.07            BRHM PY     *S5             QR5   P                <.                D+
L                                          4A                                                          <.
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K  F  F R O M - T O -  I N T RECOV  MD % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/       879.79  899.11  19.32              BRHM PY                        QR9   P                                  D)
L                                               3A                                                   D-     C.
R       879.79  899.11      10% OF THIS INTERVAL IS REPRESENTED BY SANDSTONE FRAGMENTS

/       899.11  899.61   0.50              ARSW PY     ST2 LM SS 3 4 2 4        P  1 LM      U55                     D*
L                                               6A     SN2 BD    6                  2 BD      U55

/       899.61  900.29   0.68              ARSI PY         LM //                P  1 LM      U50 <-                  D)
L                                               2A         SS

K US2   900.29  900.29   0.00

/ SIG   900.29  900.77   0.48              BRHT SL PY SL1 B* F*           MN5   P                <.                 62    6+
L                                               7A GL GL+ H* R*           KM2                                            61 62
R       900.29  900.77      UNIT IS SLIGHTLY CALCAREOUS.

/       900.77  901.01   0.24              BRHT CB SL *S2 B* F*            P3   P                <.      D-         D) D. 6+
L                                               7A GL      H* R*           M3                                            6= 62

/       901.01  901.62   0.61              BRHT CB SL      B* F*          OP6   P                        D.         D)    B(
L                                               7A GL      H* R*          MO3                        D.                   6)

/ MSX   901.62  901.92   0.30              FGSX SL GL                           P                        D.         D=    6- PU
L                                               TS PY                                                   D.               63 6.
R       901.62  901.92      THIS UNIT HAS BEEN SATURATED BY SPHALERITE, MAY INDICATE THE
R       901.62  901.92      CLOSE PROXIMITY OF THE ORE ZONE.  SL & GL OCCUR AS BRECCIA
R       901.62  901.92      MATRIX FILLING; FRAGS IN BRECCIA ARE SIMILAR TO UNITS ABOVE.

K LS2   901.92  901.92   0.00

/       901.92  902.38   0.46              BRHM PY     *S=                OP9   P                                  D-
L                                               2A                                                   C.

/       902.38  902.59   0.21              BRPM            F* B*              P                <.                 D.    D.
L                                               6A         H* R*        O LO4                                            D.

/       902.59  921.41  18.82              BRHM PY                        PQ9   P                <*          C.     D)    6.
L                                               5A                 1                                C- D( <)              6.
R       902.59  921.41      THIS UNIT IS A BRECCIATED ARSI, WITH 10% OF IT BEING REPRESENTED
R       902.59  921.41      BY THE SAND CONTENT.  THE MAJORITY OF THE CORE IS BADLY BROKEN.
R       902.59  921.41      SPHALERITE AND GALENA OCCUR WITHIN QUARTZ-SIDERITE VEINS AND IN
R       902.59  921.41      SANDSTONE UNITS.

/       904.71  905.13   0.42            X SAND PY SL            3 4 6 4        R                <=                 D=    D*
L                                               7A GL            6                                                         D)
R       904.71  905.13      FRAGMENT CONTAINING DISSEMINATED SPHALERITE.

/       906.48  906.73   0.25            X FAUL QZ     QZ5                      R                <5                 D*
L                                               7A
R       906.48  906.73      QUARTZ FILLED SHEAR ZONE.
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K  F  F R O M - T O -  T N T RECOV  MD % RDCK TM TM QM1 TX TX F C % M ARG   RT 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
Y  G                        R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

/      909.14  909.31   0.17            X FAUL QZ     QZ4                    R                <5                  D*     D.
L                                                 7A
R      909.14  909.31       QUARTZ FILLED SHEAR ZONE.

/      916.84  917.75   0.91            X FAUL                               R                <*                  D-     D-
L                                                                                                C*    <=            D-
R      916.84  917.75       SPHALERITE AND GALENA OCCUR WITHIN QUARTZ-SIDERITE VEINS.

/      921.41  932.27  10.86              ARSN PY         IB SS 3 4 7 4      P  1 LM     U65 <-                  D*
L                                                 6A      LC    6               3 BD     U65              <*
R      921.41  932.27       LOCALIZED AREAS BRECCIATED BY QUARTZ-SIDERITE VEINS.

/      932.27  939.54   7.27              ARSN PY     SI1 IB SS 3 4 2 4      P  1 LM     U45 <(       6.         D-
L                                                 5A    SN2 \   6            5  B D      U45     C .   < (

/      938.34  938.57   0.23            X CHER            IB                 R  4 BD     U40
L                                                 7A

/      938.97  939.00   0.03            X CHER            IB                 R  3 BD     U40
L                                                 7A
R      938.97  939.00       SIMILAR CHART BANDS OCCUR IN DDH 81-68 BETWEEN 876.91 AND
R      938.97  939.00       878.00 M.  STILL UNABLE TO DETERMINE EXACT STRATIGRAPHIC
R      938.97  939.00       LOCATION OF 68E IN RELATION TO OTHER SOUTH ZONE HOLES WITH
R      938.97  939.00       REFERENCE TO ORE ZONE LOCATIONS AND WHETHER OR NOT WE ARE BELOW
R      938.97  939.00       THE THIRD ORE ZONE.

/      939.54  943.00   3.46              BRHM PY                         PQ8  P                <-                  6)
L                                                 4A                2                                C.    <-
R      939.54  943.00       20% OF THIS UNIT IS REPRESENTED BY SANDSTONE AND ARSN FRAGS.

/      943.00  947.01   4.01              CGPS PY     *S1                 OP2  P                                    D.
L                                                 7A                      LN7                      C.

/      947.01  956.16   9.15              BRPM PY     *S1 F* H*           PQ5  P                <.                  D)
L                                                 6A          R* B* 3 1 1 0 JM=                   C-    <-
R      947.01  956.16       INTERVAL IS MAINLY ARSN & CGCP CLASTS.

/      956.16  968.04  11.88              CGCP PY                         MO3  P                <-                  6)
L                                                 8A                2     MO7                            6-
R      956.16  968.04       SIMILAR ARGILLITE FRAGMENTS THAT HAVE BEEN PYRITE REPLACED AS
R      956.16  968.04       FOUND IN 81-68 FROM 873.86 - 879.96 M.  BIMODAL SORTING IS
R      956.16  968.04       APPARENT THROUGHOUT THIS INTERVAL.

/      968.04  972.10   4.06              CGBR GR         SH                 MQ5  P
L
R      968.04  972.10       GRADATIONAL WITH ABOVE CGCP, CONTAINTS HIGHER CONTENT OF
R      968.04  972.10       ARGILLITE FRAGS'.

/      972.10  980.54   8.44              BRHM PY         F* B*              PQ6  P                <.                  6)
L                                                 4A        R*        3      LN)                      C.                D.
```

```
K  F  F R O M - T O -  I N T RECOV  MO % ROCK TM TM QM1 TX TX F C % M ARG   RI 1 ID AZM DIP QZ FL CY CA BA XX PY CP GL YY  A 1 A 2
E -L- ----.-- ----.-- ---.-- ---.-- -- - ---- -- -- --- -- -- - - - - ---- --- - -- --- --- -- -- -- -- -- -- -- -- -- -- -- - - - -
Y  G                         R Q D  AGE EV RQ LC TM QM2 TX TX S C O O CHT      2 ID AZM DIP MG MU CL SD QS HA PR MT SL HA

R       972.10  980.54      SPHALERITE FOUND AS A REPLACEMENT MINERAL WITHIN SOME CHERT
R       972.10  980.54      CLASTS.  THIS UNIT ALSO CONTAINS 30% SAND IN SANDSTONE FRAGMENTS
R       972.10  980.54      AND IN ARSN FRAGMENTS.  CORE IS BROKEN OVER THE ENTIRE INTERVAL.

R ASY    58.52   78.94       CHECK AZIMUTH VALUE.
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RULED BY R.B.P.

^DEVSYS>UDD>JASON>GEOM04>PRLOG

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 ******             **        **  * **  **    **             ******
                    **        **  ****  **    **
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                    ********  **    **  ******
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$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$                                                              $
$  REQUESTED 1982/02/05 1438:39.7                             $
$  OUTPUT    1982/02/05 1438:40.0                             $
$                                                              $
$                                                              $
$  PRINTER QUEUE 3             !LPT00                          $
$                                                              $
$  PAGES    554                                                $
$                                                              $
$  LINES  23563                                                $
$  CHARGE TO DOUG.DEV.INT                                      $
$                                                              $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
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^DEVSYS>UDD>JASON>GEOM04>PRLOG