

91.DY-05

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8

CURRAGH RESOURCES INC.
Lithologic Log

015177

Page A'

Date: Feb 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | Unit | Description | | | | |
|-----|------|--------|-----|------|---|----|----|----|----|
| | | | | | | 14 | 16 | 20 | 22 |
| 61 | 4283 | | | 5BØ | Light to medium grey phyllite with off-white quartz-calcite laminae/beds following $S_1, S_2/S_2$. Moderately calcareous. CS_2 and PS_2 foliated. Silvery grey fracture surfaces. Moderately soft. No sulphides. Minor healed oligoclite clast-supported breccia at 428.0-428.1. Very good core recovery. Good R&D. — upper contact — — — — — Gradational lower contact parallel S_2 . Quartz-carbonate elongate en-echelon lenses at $\sim 30^\circ$ are possible extensional gashes. | | | | |
| 83 | 4289 | | | 5FØ | Olive greenish grey weakly chloritic phyllite with off-white quartz-calcite siltstone laminae following $S_1, S_2/S_2$. Moderately calcareous. CS_2 and PS_2 foliated. Olive silvery grey fracture surfaces. Moderately soft. No sulphides. Chloritic-clayey fault gouge at lower contact (428.8-428.9) at $\sim 45^\circ$. Good core recovery. Poor R&D. Gradational upper/lower contacts parallel S_2 . | | | | |
| 89 | 4308 | | | 5BØ | (10Ø#) 96:ØØ Light to medium grey phyllite with off-white quartz-calcite siltstone laminae/beds following $S_1, S_2/S_2$. Moderately calcareous. CS_2 and PS_2 foliated. Silvery grey fracture surfaces. Moderately soft. Trace disseminated pyrrhotite within laminae/beds as mg. euhedral cubic pseudomorphs after pyrite. Very good core recovery. Good R&D. Minor healed fracture at 429.5-429.6. Gradational upper/lower contacts parallel S_2 . White bull-quartz-calcite concordant bands (veins?) subparallel to S_1 are very calcareous, hard and have sharp contacts with 5BØ. | | | | |
| 308 | 4317 | | | 5BØ | (5BØ → 4LØ) 70:30 Yellowish-green g. of weakly seriate-chlorite altered phyllite with off-white quartz | | | | |

91DY-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page

C'

Date: Feb 22/91

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| m | To | Recov. | No. | Unit | Description |
|------|-------|--------|----------------|-------|--|
| 14 | 16 | 20 | 22 24 26 28 30 | 34 35 | |
| 3,30 | 4,337 | | | 518A | (5D4 & 1 → 4LØ) 55:45 Yellowish-green grey sericite-chlorite ± quartz altered phyllite with off-white quartz-calcite siltstone laminae/beds following S ₁ , S ₂ /S ₂ . Moderately calcareous. P _S ₂ and C _S ₂ foliated. Yellowish silty grey fracture surfaces. Moderately soft. Contains pyrrhotite ± magnetite bands (8cm wide) parallel S ₂ at 433.0-433.05, 433.3. Possible leathery light brown v.f.g. honey sphalerite present at 433.45 with pyrrhotite. Very good core recovery, Good to very good RQD. Sharp upper contact at CA 80°. Sharp lower contact at CA 75°. |
| 3,37 | 4,343 | | | 4EØ | (4CØ) 6Ø:4Ø Pyritic massive sulphide containing 65% pyrite, 25% quartz, 10% calcite. Moderately calcareous. Massive to P _S ₂ foliated. Grey and brassy yellow fracture surfaces. Hard. Brassy yellow f.g.-v.f.g. (euhedral-cubic?) pyrite as masses and bands (2-4cm wide) parallel S ₂ . Quartz-calcite bands (1-2cm wide) and elongate pods (≥ 3cm long) parallel S ₂ . Very good core recovery, RQD. Sharp upper contact at CA 75°. Sharp lower contact at CA 80°. Pyritic quartzite at 433.7-433.9 contains 40% quartz, 30% pyrite and 30% calcite. Very calcareous. P _S ₂ /C _S ₂ foliated. Grey, brassy yellow fracture surfaces. Hard. Brassy yellow f.g.-v.f.g. (euhedral-cubic) pyrite as bands (2-6cm) parallel S ₂ . Quartz-calcite bands (1-3cm wide) parallel S ₁ , S ₂ . |
| 3,43 | 4,347 | | | 5C4 | (1ØQ#) 7Ø:3Ø Medium yellowish-olive greenish grey v.f.g. aphanitic ^{metabasitic} groundmass, white f.g. euhedral (tenuose?) phenocrysts and black f.g. subhedral (amphibole, pyroxene) phenocrysts within relict porphyritic igneous texture. Slightly P _S ₂ overprinted by off-white |

9.1.D.Y.-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page D'

Date: Feb. 22/91 Logged By: D Halliwell

| m | To | Recov. | No. | | | | Unit | Description | |
|------|-------|--------|-----|----|----|-----|--------------|---|--|
| | | | 14 | 16 | 20 | 22 | | | 24 |
| | | | | | | | | | quartz-calcite laminae and dark grey chloritic laminae. Moderately to very calcareous. Massive to PS_2 foliated. Olive grey fracture surfaces. Moderately soft, due to weak sericite-chlorite alteration. No sulphides. Very good core recovery. Good R&D. Sharp upper contact at CA 80° . Sharp lower contact at CA 40° . |
| 3.47 | 4.369 | | | | | 5B4 | 21 → 4LØ & 1 | Yellowish-green grey sericite-chlorite ± quartz altered phyllite with off-white quartz-calcite and olive chloritic laminae/bands following $S_1, S_2/S_3$, and quartz-calcite veinlets at all CA angles (following L_3, L_4, L_5 ?). Moderately to strongly calcareous. CS_2 and PS_2 foliated. Yellowish-green grey fracture surfaces (sericite-chloritic). Moderately soft to moderately hard (where silicified). Trace pyrrhotite within bands, laminae, veinlets as mg. euhedral cubic pseudomorphs after pyrite. Minor healed oligonict clast-supported breccia at 435.3-435.4. Very good core recovery, R&D. Sharp upper contact at CA 40° . Sharp lower contact at CA 80° . More silicified near lower contact. | |
| 3.69 | 4.377 | | | | | 5C4 | 21 (5F4) | Medium yellowish-olive green v.f.g. aphanitic metabasitic groundmass, white fig. euhedral (neucovene?) phenocrysts and black fig. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Weakly overprinted by olive-grey chloritic bands, laminae parallel S_2 . Moderately to very calcareous. Massive to PS_2 foliated. Yellow-green-grey fracture surfaces. Moderately soft (weak sericite-chlorite alteration) to moderately hard (where weakly silicified). Very good core recovery, R&D. Sharp upper, lower contacts at CA 80° . Chill margins near upper, lower contacts. Yellowish-greenish sericite-chlorite altered phyllite with off-white quartz | |

91.D.Y.-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page

E'

Date: Feb. 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | Unit | Description |
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| 14 | 16 | 20 | 22 24 | 26 28 | 30 34 35 |
| | | | | | calcite laminae/beds following S_1/S_2 occurs at 437.3-437.6. Moderately to very calcareous. CS_2 and PS_2 foliated. Yellowish-grey fracture surfaces. Moderately soft. No sulphides. Gradational contacts with 5C4. |
| 77 | 4406 | | | 4G84 & 71 → 4EC84 & 71 (4LØ) 98:Ø2 | <p>Magnetite-bearing baritic massive sulphide containing 50% pyrite, 15% quartz, 10% calcite, 10% barite, 8% magnetite, 4% sphalerite, 3% pyrrhotite, trace chalcopryite and trace galena. Moderately calcareous. Massive to PS_2 foliated to CS_2 foliated. Brassy yellow-grey fracture surfaces. Hard, heavy, dense. Brassy-yellow fig.-v.f.g. (cubical-cubic?) pyrite as masses, bands (Ø.5-2.0 cm wide) parallel S_2, and laminae following S_0. Off-white, soft, very calcareous calcite as large and small clots (Ø.5-4.0 cm dia.) at 438.0-439.4, 440.2-440.5 and as laminae parallel S_2. Purplish red-brown fig. (subhedral?) sphalerite as laminae parallel S_2, notably at 439.8-440.5. White, fig., non-calcareous dense barite (rarely seen) as disseminations. Black fig. (subhedral-cubical?) strongly magnetic magnetite, as patches (1-10 mm dia.) and bands (1-15 mm wide) following S_1, S_2. Bronze brown fig. (subhedral?) pyrrhotite as masses and bands parallel S_2 at 440.3-440.6. Rare traces of chalcopryite near 440.0, etc., as yellow fig. subhedral crystals (disseminated). Rare traces of grey fig. (cubical-cubic?) galena as disseminations. At 439.8-439.9, appears like 4D4.</p> <p>Very good core recovery, R&D. Sharp upper, lower contacts at $\theta 80^\circ$. Yellowish olive-grey sericite-chlorite altered phyllite at 440.45-440.55 is moderately calcareous, PS_2 foliated, moderately soft and has fairly sharp contacts with 4G84 & 71 → 4EC84 & 71 parallel S_2.</p> |

91.D.Y.-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page

F'

Date: Feb. 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | Unit | Description | | | | | | |
|-----|------|--------|-----|---------|-------------|-----------------------------|----|----|----|--|--|
| 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | 35 | | |
| 406 | 4410 | | | 5C4\$ | 21 | | | | | Yellow-green-grey v.f.g. aphanitic ^{metabasitic} groundmass, white f.g. anhedral (leucocrone?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Weakly calcareous. Massive, P ₂ foliated and C ₂ foliated. Yellow-green-grey fracture surfaces. Moderately soft to moderately hard (where silicified). Cross-cut by off-white quartz-dolomite veinlet at CA 40°. Overprinted by olive chloritic bands parallel S ₁ . Very good core recovery, R&D. Sharp upper contact at CA 80°. Sharp upper, lower contacts at CA 80°. | |
| 410 | 4424 | | | 5C4 &\$ | → 4L0 &\$ | (5C14 → 4L1 : 4H3* : 10Q\$) | 50 | 30 | 15 | 05 | Yellow-green-grey v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (leucocrone?) and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Weakly calcareous. Massive to P ₂ foliated. Yellow-green-grey fracture surfaces. Moderately soft (sericite-chlorite alteration). No sulphides. Strongly overprinted by olive chloritic and off-white quartz-dolomite laminae, bands parallel S ₂ . Very good core recovery. Good R&D. Sharp upper contact at CA 80°. Sharp lower contact at CA 50° marked by healed oligomict clast-supported breccia. Dolomite bands, laminae at 441.6-442.1 follow S ₁ , S ₂ . Silicified variant at 442.1-442.4 near lower contact is similar to above unit, but slightly harder. Has gradational upper contact with 5C4\$. Vuggy at 442.1-442.2. Bronze-brown/brassy yellow ^{moderately calcareous} pyrrhotite / pyrite massive sulphide unit (band?) occurring at 441.0 - 441.4 is weakly magnetic, hard and has sharp lower contact with 5C4 &\$ → 4L0 &\$ at CA 90°. Contains 35% pyrite, 45% pyrrhotite. White-grey quartz-dolomite concordant band (vein?) at 441.2-441.3 is weakly calcareous, hard and has sharp contacts with 4H0, 5C4 &\$ → 4L0 &\$. |

91DY-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page 6'

Date: Feb. 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | Unit | Description | | | | | |
|----|------|--------|-----|------|--|----|----|----|----|--|
| 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | 35 | |
| 24 | 4435 | | | 4E78 | Pyrite-pyrrhotite massive sulphide contains 60% pyrite, 30% pyrrhotite, 7% quartz-dolomite, 2% magnetite, 1% sphalerite. Weakly calcareous. Massive to PS_2 foliated. Black-grey-dive-brassy yellow-bronze brown fracture surfaces. Hard. Healed oligomict matrix-supported breccia at upper contact and low α angle at 442.4-443.4, with zoned chloritic fracture at $\alpha 0^\circ-5^\circ$ (black Fe-chlorite? core, olive green Mg-chlorite or off-white dolomite selvage). Moderately to strongly magnetic. Brassy yellow fg-v.f.g. (cubical-cubic?) pyrite as masses and bands parallel S_2 . Bronze-brown fg-v.f.g. (subhedral?) pyrrhotite and bands parallel S_2 and masses. Off-white fg-v.f.g. anhedral quartz-dolomite as fracture fillings and breccia matrix (442.4-443.4) and laminae, bands parallel S_2 (443.4-443.5). Black v.f.g. (magnetic) magnetite as patches and laminae. Brown-red v.f.g. sphalerite and rare yellow fg. Chalcopryite as laminae parallel S_2 . Good core recovery, R&D. Fairly blocky along fracture at $\alpha 0^\circ-5^\circ$ (442.4-443.4). Sharp upper (brecciated) contact at $\alpha 5^\circ$. Sharp lower contact at $\alpha 7^\circ$. | | | | | |
| 35 | 4461 | | | 5C46 | $\rightarrow 4L\phi$ (5C846:5F46) $5\phi:45:\phi 5$ Beige-tan ^(yellowish) quartz-sericite altered v.f.g. aphanitic groundmass, white fg. anhedral (hexagonal?) phenocrysts and black fg. subhedral (amphibole?) plagioclase within relict porphyritic igneous texture. Weak off-white quartz-dolomite laminae, band appropriate along S_2 . Groundmass may contain subequal amounts of plagioclase and K-spar. Weakly calcareous. Massive to PS_2 foliated. Beige-tan-yellowish grey fracture surfaces. Moderately soft (softer, due to alteration). No sulphides. Very good core recovery. Good R&D. Sharp upper contact at $\alpha 7^\circ$. Sharp lower contact | | | | | |

91.DY-05
2 8

CURRAGH RESOURCES INC.
Lithologic Log

Page H' _____

Date: Feb 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | Unit | Description |
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| 14 | 16 | 20 | 22 24 26 28 30 | 34 35 | |
| | | | | | at CA 80°. Clayey fault gouge at 444.2-444.4 at CA 35°. Pervasively chloritized-sericitized v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (leucosome?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Interbanded with white-grey ^{bull} quartz-calcite bands. Moderately calcareous. PS ₂ foliated to massive. Yellow-green ^{bull} ochre (limonite) fracture surfaces. Alternately moderately soft, hard (bands). Occurs at 445.1-446.1. Trace laminae (band)-related pyrrhotite as min. euhedral cubic pseudomorphs. Yellow-green sericitic-chloritic phyllite with off-white quartz-calcite siltstone laminae/beds parallel S ₂ at 444.7-444.8 is weakly calcareous, PS ₂ foliated, moderately soft to soft. No sulphides. Fairly sharp contacts with 5C46 parallel S ₂ . |
| 461 | 4479 | | | 5C47 | Medium grey v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (leucosome?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Weak olive-grey chloritic laminae S ₂ overprint. Moderately to strongly calcareous. Massive to weakly PS ₂ foliated. Grey fracture surfaces. Moderately soft. Very good core recovery. Good R&D. Sharp upper, lower contacts at CA 80° |
| 479 | 4487 | | | 5F47 | Medium olive grey weakly chloritic phyllite with off-white quartz-calcite laminae/beds following S ₁ , S ₂ , PS ₂ . Moderately to strongly calcareous. CS ₂ and PS ₂ foliated. Olive-grey to silvery grey fracture surfaces. Moderately soft. Trace pyrrhotite along laminae parallel S ₂ . Very good core recovery. Good R&D. Sharp upper contact at CA 80°. Sharp lower contact at CA 70°. |

91DY-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page I'Date: Feb. 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | Unit | Description | | | | |
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| | | | | | | 14 | 16 | 20 | 22 |
| 87 | 4492 | | | 5C07 | Weakly chlorite-banded metabasite unit, as above. Moderately to strongly calcareous. PS_2 foliated. Grey fracture surfaces. Moderately soft. Trace pyrrhotite along laminae parallel S_2 as subhedral cubic pseudomorphs. Very good core recovery. Good R&D. Sharp upper contact at $CA 70^\circ$. Sharp lower contact at $CA 80^\circ$. | | | | |
| 92 | 4513 | | | 5C67&4 (5F67) 95:05 | Yellowish medium grey v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (clausenite?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyroitic igneous texture. Weak olive grey chloritic laminae S_2 overprint. Weakly calcareous. Massive to PS_2 foliated. Yellowish grey fracture surfaces. Moderately soft. Trace pyrrhotite along laminae parallel S_2 as m.g. e.g. anhedral cubic pseudomorphs after pyrite. Very good core recovery. Good R&D. Sharp upper ^{lower} contact at $CA 80^\circ$. Chloritic phyllite with siltstone laminae/beds following $S_1, S_2/S_2$ is weakly calcareous, CS_2 and PS_2 foliated, moderately soft and has fairly sharp contacts with 5C67&4 parallel S_2 . | | | | |
| 513 | 4524 | | | 5C7\$ & 1 | Medium grey v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (clausenite?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyroitic igneous texture. Weakly overprinted by olive chloritic laminae parallel S_2 . Clots and masses of grey-white quartz-dolomite. Silicified towards lower contact. Weakly calcareous. Massive to PS_2 foliated. Grey fracture surfaces. Moderately soft. No sulphides. Good core recovery. R&D. Sharp upper contact at $CA 80^\circ$. Convolute sharp lower contact at $CA 45-90^\circ$. | | | | |

9104-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page

J/

Date: Feb. 22/91 Logged By: D. Halliwell

| m | To | Recov. | No. | | | | Unit | Description | |
|------|-------|--------|-----|----|----|---------|----------------------|--|----|
| | | | 14 | 16 | 20 | 22 | | | 24 |
| 5.24 | 4.553 | | | | | 4K78 | & 64 (4E0-4G0) 95:05 | MAJOR HEALED BRECCIA | |
| | | | | | | | | Weakly mineralized, CO ₂ -bearing pyritic massive sulphides with 30% pyrite, 35% carbonate minerals (dolomite ± calcite ± ankerite), 20% quartz, 8% magnetite, 5% pyrrhotite, 2% sphalerite, ^{trace pyrite,} weakly calcareous. Massive-chaotic (large angular-subsequent clasts of pyritic MS. within major healed oligomict clast-to matrix-supported breccia. Qtz-carb matrix. Grey-white-brassy yellow fracture surfaces. Hard to moderately hard. | |
| | | | | | | | | Brassy yellow f.g.-v.f.g. (cuboidal-cubic?) pyrite as masses, clasts, veinlet-fillings. Large to small angular subsequent clasts (Ø.5-4.0 cm dia) of quartz-carbonate. Veinlets of quartz-carbonate at low Ct angles. Black f.g. magnetite as patches and breccia matrix fillings (veinlets). Bronze-brown f.g. magnetic pyrrhotite as masses, patches and laminae following S ₁ , S ₂ . Red-brown v.f.g. (subhedral?) sphalerite as patches and along laminae following S ₁ , S ₂ . Possibly honey (blonde) sphalerite at 452.6 (has yellowish-brown core with reddish-brown alteration rim and leathery texture - if greener, could be mistaken for Mg-chlorite. | |
| | | | | | | | | Very good core recovery, ROD. Convolute sharp upper contact at CA 45°-90°. Sharp lower contact at CA 40°. | |
| | | | | | | | | Pyritic massive sulphide at 453.4-453.7 contains 65% pyrite, 20% quartz, 8% barite, 7% dolomite and is weakly baritic (heavy, dense, off-white non-calcareous disseminations and patches). Weakly calcareous. Massive. Hard. Dense, heavy. Sharp contacts with 4K78 & 64 at CA 80°, CA 30° (upper, lower; respectively). | |
| 5.53 | 4.577 | | | | | 4K0\$&@ | (4K0*:4CE0) 45:40:15 | HEALED & OPEN BRECCIA | |
| | | | | | | | | Barren carbonate-bearing pyritic massive sulphide contains 40% pyrite, 40% carbonate (dolomite ± ankerite ± calcite), 15% quartz, 5% pyrrhotite. Weakly calcareous. Massive to P ₂ foliated. Grey-white-brassy yellow fracture surfaces. Moderately hard. | |

910Y-05

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8

CURRAGH RESOURCES INC.

Lithologic Log

Page

K'

Date: Feb. 22/91

Logged

By: D. Halliwell

| m | | To | Recov. | No. | Unit | Description | | | | |
|-----|----|-----------------|--------|-----|----------------|---|----|----|----|---|
| 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | 35 | |
| | | | | | | | | | | Brassy yellow fg.-v.f.g. (euhedral-cubic) pyrite as masses and bands parallel S_2 . Large subangular - equant to elongate clasts of pyritic massive sulphide and quartz carbonate (difficult to discern which is matrix, which are clasts) within major healed oligomict matrix. Bronze-brown pyrrhotite laminae parallel S_2 . Very good core recovery. Good to fair RQD. Rubbly core at 455.3-455.7. Large open breccia (vugs ≤ 4 cm long; one can "see-through" core). Filled by euhedral calcite at 455.7-456.0. Blocky to rubbly core at 456.3-456.5. Sharp upper contact at $CA 40^\circ$. Sharp lower contact at $CA 80^\circ$. Calcite-rich open to healed breccia, locally vuggy (see above), massive sulphide occurs near upper contact (455.3-456.5). Very calcareous. Massive-brecciated. Grey-white-brassy yellow fracture surfaces. Moderately hard to hard. Subangular-elongate quartz-calcite clasts are supported by pyritic matrix at 456.0-456.3. Gradational contacts with $4K\emptyset$ parallel S_2 . Pyritic quartzite/massive sulphide at 456.9-457.15 contains 45% pyrite, 45% quartz, 10% dolomite. Weakly calcareous. P_2 foliated to massive. Grey-white, brassy yellow fracture surfaces. Hard. Brassy yellow fg.-v.f.g. (euhedral-cubic?) pyrite as bands (0.5-6.0cm wide) parallel S_2 . Quartz-dolomite bands parallel S_2 . Fairly sharp contacts with $4K\emptyset$ parallel S_2 . |
| 577 | | 459 \emptyset | | | 4G \emptyset | $\rightarrow 4E\emptyset$ (4K7:100%) 65:3 \emptyset :05 | | | | Weakly baritic, pyritic massive sulphide contains 60% pyrite, 20% quartz, 10% dolomite +ankerite, 10% barite. Weakly calcareous. Massive to P_2 foliated. Brassy yellow-grey-white fracture surfaces. Hard. Brassy yellow fg.-v.f.g. (euhedral-cubic?) pyrite as masses and bands (2-5cm wide) parallel S_2 . Off-white to orange-brown tint dolomite +ankerite as bands parallel S_2 and clots. White fg. non-calcareous soft, |

H 91D.Y-05
2 8

CURRAGH RESOURCES INC.
Lithologic Log

Page 11

Date: Feb 22/91 Logged By: D. Halliwell

| om | To | Recov. | No. | Unit | Description |
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| 14 | 16 | 20 22 24 | 26 28 | 30 | 34 35 |
| | | | | | <p>dense (heavy) barite occurs as fine disseminations throughout. Core is dense, heavy Very good core recovery. Good R&D. Sharp upper, lower contacts at CA 80°. Carbonate (dolomite ± ankerite)-rich massive sulphide contains 40% carbonate, 30% quartz, 20% pyrite, 10% pyrrhotite, and occurs at 458.1-458.4. Sub-unit is weakly calcareous, hard, weakly magnetic, and has sharp contacts with 460 → 450 parallel S₂. Ankerite at 458.1 is orangey-brown-cream coloured, soft and very weakly calcareous. Grey/white bullquartz-dolomite concordant bands (veins/veinlets) at 458.9 are weakly calcareous, hard and have sharp contacts with 460. Near lower contact.</p> |
| 590 | 461.6 | | | AL0 & 1 (4ECA) 80:20 | <p>Yellowish-green-grey sericite-chlorite ± quartz altered phyllite with off-white quartz-dolomite siltstone laminae/beds following S₁, S₂/S₂. Weakly calcareous. PS₂ and CS₂ foliated. Yellow-green-silvery grey fracture surfaces. Moderately soft to moderately hard (where silicified). No sulphides. Minor healed oligo- mic clast-supported breccias at 459.2-459.4, 460.5-461.2; the latter exhibiting slight polymict nature (5046 clasts, as well as 420). Very good core recovery. Good R&D. Blocky core at 459.0-459.1, 460.8-461.3. Sharp upper, lower contacts at CA 80°. Sphalerite-bearing pyritic quartzite/massive sulphide at 461.2-461.8 contains 50% pyrite, 20% quartz, 20% carbonates, 5% sphalerite, 4% magnetite, 1% chalcopyrite. Weakly calcareous. Massive to PS₂ foliated. Grey, brassy yellow fracture surfaces. Hard. Brassy yellow fg-vfg pyrite as masses and bands (parallel S₁). Yellowish off-white carbonates (dolomite ± ankerite)</p> |

CURRAGH RESOURCES INC.

Lithologic Log

Date: Feb. 23/91 Logged By: D. Halliwell

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2 8

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| 14 | 16 | 20 | 22 24 | 26 28 | 30 | 34 | 35 | |
| | | | | | | | | as clasts or clots (0.5-4.0 cm dia.). Purplish red-brown fig. sphalerite at 46.2-46.3 as bands (5-10 mm wide) parallel S ₂ . Yellowish-brown band at 46.1 parallel S ₂ may be honey sphalerite. Fairly sharp contact with 46.0 & 1 parallel S ₂ . |

616 4645 4E486 → 4G48 (4G48 → 4E486) 6Ø:4Ø

Weakly baritic pyritic massive sulphide contains 60% pyrite, 10% quartz, 8% dolomite, 8% barite, 7% magnetite, 3% pyrrhotite, 2% sphalerite, 2% chalcopyrite. Weakly calcareous. Massive, P₂ foliated, and (locally) C₂ foliated. Brassy yellow grey-white-black fracture surfaces. Hard. Fairly heavy, dense. Trace galena. Limonitic fractures.

Brassy yellow fig. pyrite as masses and bands (following S₁, S₂). Off white fig weakly calcareous dolomite as clots (1-3 cm dia.) and laminated following S₁, S₂. Black fig. (strongly magnetic) magnetite as patches, laminae/bands following S₁, S₂. Bronze-brown fig. (fairly magnetic) pyrrhotite as patches and laminae (following S₁, S₂). Red-brown sphalerite as laminae following S₁, S₂. Yellow m.g. (cuboctahedral-tetragonal) chalcopyrite along laminae following S₁, S₂. Purplish-grey m.g.-fig. (cuboctahedral-cubic) galena along laminae following S₁, S₂. White fig. soft, non-calcareous barite as fine disseminations.

Very good core recovery, Good to very good R&D. Sharp upper, lower contacts at CA 80°.

More baritic sub-unit contains 60% pyrite, 10% quartz, 10% barite, 7% magnetite, 6% dolomite, 3% pyrrhotite, 2% sphalerite, 2% chalcopyrite, trace galena. Mineral occurrence modes, structure, texture and geotechnical properties are similar to main unit. Gradational contacts with main unit. Heavier, denser.

| From | To | Recovery | No. | Unit | Description |
|------|------|----------|-------|-------------------------|---|
| 14 | 16 | 20 | 22 24 | 26 28 30 | 34 35 |
| 645 | 4654 | | | ACE84 | <p>Pyritic quartzite/massive sulphide contains 45% pyrite, 35% quartz, 10% dolomite, 6% magnetite, 2% pyrrhotite, 2% sphalerite, trace chalcopryite. Weakly calcareous. PS_2 foliated. Grey-brassy yellow-black fracture surfaces. Hard. Brassy yellow fig. pyrite as euhedral cubes within masses and along laminae bands follow S_1, S_2. Quartz-dolomite clots and laminae parallel S_2. Black fig. magnetite as laminae parallel S_2. Bronze brown pyrrhotite (magnetic) and red-brown sphalerite are fig and occur as laminae parallel S_2. Trace yellow mg-fig. chalcopryite as laminae-fillings.</p> <p>Very good core recovery, R&D. Sharp upper contact at CA80°. Sharp lower contact at CA60°.</p> |
| 654 | 4664 | | | 5B4 & 16 | <p>Light to medium gray phyllite with slight yellow-green (sericite-chlorite alteration) tint and off-white quartz-calcite ± dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Weakly calcareous at 465.4-465.6; moderately to strongly calcareous at 465.6-466.4. CS_2 and PS_2 foliated. Yellowish silvery gray fracture surfaces. Moderately soft to moderately hard (where silicified). Very good core recovery. Good R&D. Sharp upper contact at CA60°. Gradational lower contact parallel S_2.</p> |
| 664 | 4691 | | | 5B0 (5B4:5B02) 80:10:10 | <p>Light to medium gray phyllite with occasional yellowish (sericitic) tint and off-white quartz-calcite siltstone laminae/beds following $S_1, S_2/S_2$. Moderately calcareous.</p> |

H 91DY-05

CURRAGH RESOURCES INC.

Page

01

Lithologic Log

Date: Feb. 22/91 Logged By: D. Halliwell

119.7

2

8

| From | To | Recov. | No. | Unit | Description | |
|------|------|--------|-------|----------|---|--|
| 14 | 16 | 20 | 22 24 | 26 28 30 | 34 35 | <p>CS₂ and PS₂ foliated. Silvery grey fracture surfaces. Moderately soft. No sulphides. Very good core recovery, R&D. Gradational contacts parallel S₂. Yellowish (sericitized) phyllite with siltstone laminae, CS₂ foliation occurs at 466.8-467.1. Moderately calcareous. CS₂ foliated. Moderately soft. Silvery grey fracture surfaces. Gradational contacts with SBØ parallel S₂. Weakly carbonaceous (dark grey) phyllite interbeds occur throughout this unit. Moderately calcareous. Dark silvery grey fracture surfaces, CS₂, PS₂ foliated. Moderately soft to soft. Gradational contacts with SBØ.</p> |
| 4691 | 4694 | | | SBØ | <p>(SBØ) 55:45 Blue-gray marbly phyllite to marble is very calcareous (quickly etched by 10% HCl acid), CS₂ foliated, bluish grey fracture surfaces, moderately soft, and has fairly sharp contacts with SBØ parallel S₂. No sulphides. Very good core recovery. Good R&D. Light to medium grey phyllite with off-white quartz-calcite siltstone laminae/beds following S₁, S₂/S₂. CS₂ and PS₂ foliated. Moderately calcareous. Silvery grey fracture surfaces. Moderately soft. Occurs at 469.1-469.2-469.35.</p> | |
| 4694 | 471 | 45+ | | SBØ | <p>Light to medium grey phyllite with off-white quartz-calcite laminae/beds following S₁, S₂/S₂. Moderately calcareous. CS₂ and PS₂ foliated. Silvery grey fracture surfaces. Moderately hard. No sulphides. Very good core recovery. Good R&D. Gradational upper contact parallel S₂. Lower contact</p> | |

CURRAGH RESOURCES INC.

GEOTECHNICAL LOG

DDH# 91DY-05

Units: Feet / Metres

Date: Feb. 22/91

Logged By: D. Halliwell

Page of

| Run (Length) | TCR (Length) | ROD (Length) | Strength | Degree Breakage | Weathering Alteration | FRACTURES <small>w.r.t. CA</small> | | | | | | | | | | | | CORE SIZE | COMMENTS |
|-----------------|-----------------|-----------------|----------|--------------------|--------------------------|------------------------------------|-------|-----|------|-------|-------|-----|------|-------|-------|-----|------|---|----------|
| | | | | | | 0-30 | | | | 30-65 | | | | 65-90 | | | | | |
| | | | | | | No | Rough | Alt | Type | No | Rough | Alt | Type | No | Rough | Alt | Type | | |
| 428.9 | 2.7+ | 1.5+ | R2 | 10 | 1 | 2 | 14 | 10 | J | 3 | 16 | 10 | J | 29 | 12 | 6 | S | } clay-chlorite fault gouge } clayey fault gouge | |
| 431.9 | 3.0 | 1.8 | R2 | 12 | 1 | 0 | - | - | - | 3 | 14 | 10 | J,S | 24 | 13 | 7 | S | | |
| 434.9 | 3.1 | 2.4 | R2 | 13 | 1 | 0 | - | - | - | 3 | 14 | 10 | J | 20 | 12 | 8 | S | | |
| 438.0 | 3.1 | 2.8 | R3 | 14 | 1 | 0 | - | - | - | 3 | 16 | 10 | J | 11 | 12 | 10 | S | | |
| 441.0 | 3.0 | 3.0 | R4 | 14 | 1 | 0 | - | - | - | 0 | - | - | - | 8 | 13 | 10 | S,J | | |
| 444.0 | 3.1 | 1.9 | R3 | 10 | 1 | 2 | 12 | 10 | J | 2 | 14 | 10 | J | 30 | 12 | 6 | S | | |
| 447.1 | 3.1 | 1.5 | R3 | 12 | 1 | 0 | - | - | - | 7 | 10 | 10 | G | 31 | 12 | 6 | S | | |
| 448.4 | 1.3 | 0.6 | R2 | 12 | 1 | 0 | - | - | - | 0 | - | - | - | 10 | 12 | 10 | S | | |
| 451.4 | 3.1 | 1.5 | R3 | 12 | 1 | 0 | - | - | - | 0 | - | - | - | 25 | 12 | 7 | S | | |
| 452.5 | 1.1 | 0.4 | R3 | 12 | 1 | 0 | - | - | - | 0 | - | - | - | 11 | 12 | 10 | S | | |
| 455.7 | 3.1 | 2.2 | R4 | 13 | 1 | 3 | 14 | 10 | J | 0 | - | - | - | 22 | 13 | 8 | S | | |
| 458.7 | 3.1 | 2.0 | R3 | 12 | 1 | 2 | 14 | 10 | J | 2 | 16 | 10 | J | 19 | 12 | 8 | S | | |
| 461.8 | 3.2 | 2.1 | R3 | 12 | 1 | 2 | 16 | 10 | J | 2 | 14 | 10 | J | 23 | 13 | 8 | S | | |
| 464.8 | 3.1 | 2.8 | R4 | 13 | 1 | 1 | 15 | 10 | J | 7 | 14 | 10 | J | 13 | 12 | 10 | S | | |
| 467.9 | 3.1 | 1.9 | R2 | 12 | 1 | 1 | 17 | 10 | J | 3 | 14 | 10 | J | 21 | 13 | 8 | S | | |
| 471.1 | 3.1 | 2.9 | R2 | 12 | 1 | 0 | - | - | - | 0 | - | - | - | 8 | 12 | 10 | S | | |
| | 0.3+ | 0.3+ | R2 | 14? | 12 | 0 | - | - | - | 0 | - | - | - | 0 | - | - | S | | |

| Code | FROM | | | | TO (At) | | | | Feature | REG | UPPER | | INTERNAL | | LOWER | | Description | | |
|------|------|----|------|----|-----------------|----|----|----|---------|-----|-------|----|----------|----|-------|--------|-------------|-----|---|
| | 10 | 14 | 18 | 22 | 24 | 26 | 28 | 32 | | | 34 | 38 | 40 | 44 | Dip | Direct | | Dip | Direct |
| F | 4283 | | 4289 | | 2B ₁ | | | | | | | | | | | | | | Rubby to blocky. Upper, lower contacts at CA 70°, CA 76°; respectively. |
| F | 4287 | | 4288 | | 2G | | | | | | 60 | 85 | | | | | | | Clay-chlorite gouge at CA 69° Fault plane at 85°/60° w.r.t. S ₂ strike. |
| F | 4424 | | 443 | | 3B _X | | | | | | 78 | 35 | | | | | | | Blocky brecciated core at CA 0-5° Upper, lower contacts at CA 12°; CA 6°; respectively. Fracture plane at 35°/78° w.r.t. S ₂ strike. |
| F | 4435 | | 4443 | | 3B | | | | | | | | | | | | | | Blocky. Upper, lower contacts at CA 0°, CA 77°; respectively |
| F | 4442 | | 443 | | 2G | | | | | | 38 | 15 | | | | | | | Clayey gouge (Ø 0.5m wide). Upper, lower contacts at CA 90°; CA 27°; respectively. Fault plane at 15°/38° w.r.t. S ₂ strike. |
| F | 4553 | | 4559 | | 2B _V | | | | | | | | | | | | | | Blocky. Vuggy. Upper, lower contacts at CA 68°; CA 73°; respectively. |
| F | 4564 | | 4567 | | 2B ₁ | | | | | | | | | | | | | | Blocky. Upper, lower contacts at CA 85°; CA 30°; respectively. |

| Code | From | | | | To | | | | Recov. | | | | No. | | | | Unit | Description |
|------|------|------|----|----|----|----|----|----|--------|----|----|--|-----|------|---|--|------|-------------|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | 35 | | | | | | | |
| L | 5849 | 5856 | | | | | | | | | | | | 4E4 | (4G4) 90:10 | <p>Sphalerite-bearing pyritic massive sulphide containing 65% pyrite, 20% quartz, 5% pyrrhotite, 10% dolomite and trace barite. Very weakly calcareous. Massive to PS₂ foliated. White-grey-brassy yellow fracture surfaces. Hard. Brassy yellow fig. (euhedral-cubic?) pyrite occurs as masses and bands (1-3cm wide) S₂. Brown metallic fig. (subhedral?) pyrrhotite. Cream-white fig. anhedral weakly calcareous dolomite as patches and vug fillings. Very good core recovery. Good RQD. Sharp upper contact at CA 80°. Gradational lower contact.</p> <p>Locally contains 10% off-white, soft, dense, non-calcareous barite as disseminations.</p> | | |
| L | 5856 | 5865 | | | | | | | | | | | | 4G0* | <p>Baritic massive sulphide with (secondary?) calcite. Contains 65% pyrite, 15% barite and 15% quartz and 5% calcite. Moderately calcareous. Massive to PS₂ foliated. Brassy yellow-white-grey fracture surfaces. Hard. Locally vuggy. Brassy yellow fig. (euhedral-cubic?) pyrite as masses and bands (1-10mm wide). Off-white, fig. soft, non-calcareous dense barite as disseminations. Off-white soft, very calcareous calcite as laminae parallel S₂ and vug fillings.</p> <p>Very good core recovery. Good RQD. Gradational upper, lower contacts parallel S₂.</p> | | | |
| L | 5865 | 5877 | | | | | | | | | | | | 4S0 | <p>Baritic massive sulphide containing 65% pyrite, 15% barite, 10% quartz and 10% dolomite. Very weakly calcareous. Massive to PS₂ foliated. Brassy yellow-white-grey fracture surfaces. Hard. Locally vuggy. Brassy-yellow fig. (euhedral-cubic?) pyrite as masses and bands (2-4cm wide) parallel S₂. Off-white, soft, non-calcareous</p> | | | |

DDH 91.D.Y.-05

2

8

CURRAGH RESOURCES INC.

Lithologic Log

Page BBDate: Feb 19/91 Logged By: D. Halliwell

| Code | From | | To | | Recov. | | No. | | Unit | | Description |
|------|------|----|------|----|--------|----|-----|----|------|------------------|--|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | |
| | | | | | | | | | | | <p>dense barite as disseminations and patches. Off-white creamy weakly calcareous, fig dolomite as laminae parallel S_2 and patches.</p> <p>Very good core recovery. Good R&D. Gradational upper contact - parallel S_2. Sharp lower contact at CA 80°.</p> |
| L | 5877 | | 5882 | | | | | | | 5A61 (5A6) 60:40 | <p>Dark grey to black graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Very weakly calcareous. PS_2 and CS_2 foliated. Black graphitic fracture surfaces. Moderately hard (weakly silicified). Disseminated mg euhedral-cubic pyrite cubes; 3-5%, overall. Veinlet-filling fig. subhedral pyrrhotite; 1-2%, overall. Very good core recovery. Good R&D. Sharp upper contact at CA 80°. Sharp lower contact at CA 40°.</p> <p>Non-silicified unit occurring at 587.9-588.2 is dark grey to black, PS_2 and CS_2 foliated, graphitic (fractures) and moderately soft (to soft). Gradational contact with 5A61</p> |
| L | 5882 | | 5885 | | | | | | | 4C4 | <p>Sphalerite-bearing pyritic quartzite containing 55% quartz, 25% pyrite, 15% dolomite and 5% pyrrhotite. Very weakly calcareous. PS_2 foliated. Grey-white-brassy yellow fracture surfaces. Hard. Brassy yellow, fig (euhedral-cubic?) pyrite as bands and disseminations. Brown fig sphalerite as disseminations, laminae parallel S_2. Very good core recovery. Good R&D. Sharp upper contact at CA 40°. Gradational lower contact</p> |
| L | 5885 | | 5900 | | | | | | | 4D4 | <p>Sphalerite-rich pyritic quartzite containing 35% pyrite, 35% quartz, 20% pyr-</p> |

DDH 91D.Y.-05
2 8CURRAGH RESOURCES INC.
Lithologic LogPage CCDate: Feb. 18/91 Logged By: D. Halliwell

| Code | From | | To | | Recov. | | No. | | Unit | | Description |
|------|------|------|----|----|--------|----|-----|----|------|----|--|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | |
| | | | | | | | | | | | <p>hotite and 10% dolomite. Very weakly calcareous. PS_2 and (rarely) CS_2 foliated. Brassy yellow-white-grey fracture surfaces. Hard. Brassy yellow fig. (euhedral-cubic?) pyrite as bands (1-5cm wide) parallel S_2. Reddish-brown fig. subhedral sphalerite as laminae-bands (1-3mm. wide) following S_1, S_2. Off-white (cream) fig., soft, weakly calcareous dolomite as patches and laminae following S_1, S_2. Locally vuggy (dissolved calcite).</p> <p>Very good core recovery. Good R&D. Gradational upper contact. Gradational upper contact. Gradational upper, lower contacts parallel S_2.</p> |
| L | 5900 | 5903 | | | | | | | 5A16 | 9 | <p>Dark grey to black weakly silicified graphitic phyllite with off-white quartz-dolomite laminae following S_1, S_2. Very weakly calcareous. CS_2 and PS_2 foliated. Graphitic fracture surfaces. Moderately hard (weakly silicified). Reddish-brown sphalerite laminae following S_1, S_2. Very good core recovery. Good R&D. Gradational contacts parallel S_2.</p> |
| L | 5903 | 5905 | | | | | | | 4E4 | | <p>Sphalerite-bearing pyritic massive sulphide containing 70% pyrite, 20% quartz, 5% sphalerite, 5% dolomite. Very weakly calcareous. Massive to PS_2 foliated. Brassy-yellow-grey-white fracture surfaces. Hard. Brassy yellow fig. (euhedral-cubic?) pyrite as masses. Reddish-brown fig. (subhedral?) sphalerite as patches and laminae parallel S_2. Off-white (cream) fig. weakly calcareous (in 10% HCl acid reaction) dolomite as patches. Very good core recovery. Good R&D. Gradational contacts parallel S_2.</p> |

| Code | From | To | Recov. | No. | Unit | Description |
|------|------|------|--------|-----|------|--|
| L | 5905 | 5916 | | | 4G4 | <p>Sphalerite (+galena)-bearing baritic massive sulphide containing 55% galena, 20% sphalerite, 10% barite, 5% dolomite, 10% quartz and trace galena. Very weakly calcareous. Massive to PS_2 foliated. Brass yellow-brown-white-grey fracture surfaces. Hard. Brass yellow fig. (euhedral-cubic?) pyrite as masses and bands (2-10 cm wide). Purplish red-brown metallic fig. (subhedral?) sphalerite as patches and bands (0.5-3 cm wide) parallel S_2. Off-white, soft, non-calcareous, dense barite as disseminations as patches. Trace purplish-grey fig.-mg. euhedral-cubic galena within sphalerite patches (590.9, etc.). Vuggy, with vugs at 590.5-590.8 as ellipses elongate parallel S_2 (0.5-1.5 cm long). Dense, heavy.</p> <p>Very good core recovery. Good to very good RQD. Gradational contacts parallel S_2. Slickensided lower contact ($83^\circ/44^\circ$ to strike of S_2).</p> |
| L | 5916 | 5922 | | | 4G44 | <p>Sphalerite-rich baritic massive sulphide containing 35% sphalerite, 30% pyrite, 20% quartz, 10% barite and 5% carbonate (dolomite + calcite). Weakly to moderately calcareous. Massive to PS_2 foliated. Purplish red-brown, brass yellow, white-grey fracture surfaces. Hard. Cross-cut by laminae or veinlets subparallel S_2 containing quartz-dolomite-Mg chlorite (olive-grey). Vuggy at 592.1-592.2 with vugs (1-2 cm dia.) still containing some calcite. No galena seen. Dense, heavy.</p> <p>Purplish reddish-brown fig. (subhedral?) sphalerite as masses, bands (2-5 cm wide) parallel S_2. Brass yellow fig. (euhedral-cubic?) pyrite as masses, bands (2-4 cm wide) parallel S_2 and disseminations. Off-white fig. euhedral barite as disseminations and patches, is soft, non-calcareous and dense. Off-white (cream) fig. (euhedral?) dolomite as patches. Calcite as vug-fillings (partial) along veinlets at 592.1-592.2.</p> <p>Very good core recovery. Good RQD. Gradational contacts parallel S_2.</p> |

| Code | From | | To | | Recov. | | | No. | | Unit | | | Description |
|------|------|------|----|----|--------|----|----|-----|----|------|----|-----------------------------|--|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | 35 | | |
| L | 5922 | 5927 | | | | | | | | 4C48 | | (100#) 80:20 | <p>Sphalerite-magnetite-bearing pyritic quartzite with minor quartz breccia containing 35% quartz, 35% pyrite, 10% sphalerite, 10% magnetite, 10% carbonate (dolomite + calcite). Weakly to moderately (veinlets) calcareous. Massive to P_{S_2} foliated. Minor healed oligoclase clast-supported breccia. Hard.</p> <p>Brassy yellow f.g. (cubic?) pyrite as masses and bands (2-5cm wide) parallel S_2. Purplish red-brown f.g. (subhedral?) sphalerite as bands (1-3cm wide) parallel S_2 and selvages of quartz bands (veinlets?) within breccia (592.5-592.6). Black f.g. (subhedral?) strongly magnetic magnetite as patches and veinlet-fillings (both, at 592.5-592.6). Off-white f.g. (anhedral?) dolomite as patches. Off-white calcite-quartz veinlet network at 592.5-592.6 at $\alpha 0^\circ-30^\circ$.</p> <p>Very good core recovery. Good R&D. Gradational upper contact parallel S_2. Sharp lower contact at $\alpha 80^\circ$ (parallel S_2).</p> <p>White-buff bull quartz at 592.6-592.7 is cut by calcite-quartz veinlets at $\alpha 0^\circ-30^\circ$, is moderately calcareous, hard, and has sharp contacts with 4C48.</p> |
| L | 5927 | 5950 | | | | | | | | 5A6 | | (5A61:5A9:100#) 60:30:08:02 | <p>Black to dark gray graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Very weakly calcareous, C_2 and P_{S_2} foliated. Black graphitic fracture surfaces. Moderately soft to soft. Trace brassy yellow mg. euhedral-cubic pyrite as veinlet-filling within late quartz-calcite veinlets at $\alpha 0^\circ-60^\circ$. Good core recovery. Fair R&D. Blocky core at 593.5, 594.4-594.6. Sharp upper contact at $\alpha 80^\circ$. Sharp lower contact at $\alpha 75^\circ$. (Ochrellineite) fractures near lower contact.</p> <p>Dark gray weakly silicified graphitic phyllite is weakly calcareous, moderately hard and has gradational contacts with 5A6. Occurs at 592.7-593.0.</p> |

| Code | From | To | Recov. | No. | Unit | Description |
|------|-------|-------|--------|----------------|-------|--|
| | 10 | 14 16 | 20 | 22 24 26 28 30 | 34 35 | |
| | | | | | | Sphalerite-bearing graphitic phyllite at 592.7-592.9 is dark gray, weakly calcareous, moderately soft and has gradational contact with 5A6. |
| | | | | | | Pull quartz-calcite veinlet at CA 25° at 593.4 is moderately calcareous, hard, vuggy and cross-cuts S_2 having sharp contacts with 5A6. |
| L | 59.50 | 59.55 | | | 4A41 | NOT RIBBON-BANDED. Black to dark gray graphitic phyllite with sphalerite, pyrite bands (not ribbon-banded). Very weakly calcareous. PS_2 and CS_2 foliated. Black graphitic fracture surfaces. Sometimes with brassy-yellow and purplish red-brown colours (sulphides). Moderately hard (silicified). Vuggy (1-10mm dia.) at 595.0-595.5. Contains 20% pyrite and 10% sphalerite. Brassy yellow fig.-mg. euhedral-cubic pyrite as bands (1-3cm wide) parallel S_2 and laminae (wisps) following S_1 . Purplish red-brown laminae-bands (1-5mm wide) parallel S_2 . Very good core recovery, R&D. Sharp upper contact at $\alpha 80^\circ$. Sharp lower contact at CA 75°. |
| L | 59.55 | 59.58 | | | 4D4 | Sphalerite-bearing pyritic massive sulphide containing 60% pyrite, 30% sphalerite, 8% quartz, 2% dolomite (?). Very weakly calcareous. Massive to PS_2 foliated. Brassy yellow purplish red-brown-white fracture surfaces. Hard. Brassy yellow fig. (euhedral-cubic?) pyrite as masses and bands (2-6cm wide) parallel S_2 . Purplish red-brown fig. (subhedral?) sphalerite as bands (1-3cm wide) parallel S_2 . Off-white (cream) fig. dolomite as patches. Very good core recovery. Good R&D. Sharp upper contact at CA 75°. Gradational lower contact NS_1 . |

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|------|----|----|--------|----|-----|----|------|-------------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| L | 5958 | 5965 | | | | | | | 4648 | | <p>Sphalerite-magnetite-bearing baritic massive sulphide containing 60% pyrite, 20% quartz, 10% sphalerite, 5% magnetite and 5% dolomite. Very weakly calcareous. Massive to PS_2 foliated (locally, CS_2 foliated). Brassy yellow-grey-raddish brown-black fracture surfaces. Hard. Heavy, dense.</p> <p>Brassy yellow f.g.m.g. cubed-cubic pyrite as masses ^{disseminations} and bands (2-7cm. wide) parallel S_2. Purplish reddish-brown f.g. (subhedral?) sphalerite as bands (0.5-2.0cm. wide) parallel S_2. Black v.f.g. (subhedral?) strongly magnetic magnetite as patches and laminae following S_1 (locally). Off-white (creamy) f.g. (subhedral?) dolomite as patches and laminae following S_1, S_2.</p> <p>Very good core recovery. Good R&D. Gradational upper contact parallel S_2. Sharp lower contact at Ct 70°.</p> |
| L | 5965 | 5967 | | | | | | | 5C14 | | <p>Light to medium grey v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (leucosene?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Overprinted by white-grey quartz-dolomite laminae, bands parallel S_2. Very weakly calcareous. PS_2 foliated. Grey fracture surfaces. Moderately hard and smooth (weakly silicified). Weak quartz-sericitic bleaching alteration. No sulphides. Very good core recovery, R&D. Sharp upper contact at Ct 70°. Sharp lower contact at Ct 60°.</p> |
| L | 5967 | 5971 | | | | | | | 4K8 | 87? | <p>VERY MAGNETIC.</p> <p>Ankeritic massive (non-pyritic?) sulphides containing 30% ankerite, 40% magnetite.</p> |

| Code | From | | To | | Recov. | | No. | | Unit | | Description | |
|------|-------|----|-------|----|--------|----|-----|----|------|------|---------------|---|
| | 1 | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| | | | | | | | | | | | | <p>20% pyrrhotite, 10% quartz. Very weakly calcareous (10% HCl acid reaction). Massive to P₂ foliated. White-grey-black-brown fracture surfaces. Moderately hard. Juggy at 596.9-597.0 (carbonate-Mgchlorite? nearby). Off-white to ochre (limonite?) hard, fig. very weakly calcareousankerite(?) as large patches and fracture-fillings. Black fig. (subhedral?) magnetite as patches, veinlet-fillings and interstitial-fillings. Brassy fig. - m.g. subhedral pyrrhotite as patches, bands (1-3 cm wide) parallel S₂ and veinlet fillings. Very good core recovery. Good R&D. Sharp upper contact at CA 60°. Gradational lower contact parallel S₂.</p> |
| L | 59.71 | | 59.77 | | | | | | | 4G44 | | <p>Sphalerite-rich baritic massive sulphide containing 35% sphalerite, 25% pyrite, 20% quartz, 15% barite and 5% dolomite. Very weakly calcareous. Massive to P₂ foliated. Purplish red-brown to brassy yellow, white-grey fracture surfaces. Hard. Heavy, dense.</p> <p>Purplish red-brown fig. (subhedral?) sphalerite as masses and bands (0.5-2.5 cm wide) parallel S₂. Brassy yellow fig. (euhedral-cubic) pyrite as masses and bands (0.5-2.5 cm wide) parallel S₂. Off-white fig. soft, non-calcareous, dense barite as disseminations and patches. Off-white (creamy) fig. soft, weakly calcareous dolomite as patches and laminae, bands parallel S₂.</p> <p>Very good core recovery. Good R&D. Gradational upper contact parallel S₂. Sharp lower contact at CA 70°.</p> |
| L | 59.77 | | 59.80 | | | | | | | 5C41 | 9 (4E4) 60:40 | <p>Light to medium grey v. fig. aphanitic metabasitic groundmass, white fig. m.g. anhedral (ence-</p> |

DDH 97.01-05
2 8CURRAGH RESOURCES INC.
Lithologic LogPage IIDate: Feb. 19/91 Logged By: D. Halliwell

| Code | From | | To | | Recov. | | No. | | Unit | | Description |
|------|------|----|------|----|--------|----|-----|----|------|------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | 34 | |
| | | | | | | | | | | | <p>zone?) phenocrysts and black fig. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Overprinted by dark grey mafic bands/laminae, off-white quartz-dolomite and reddish brown sphalerite laminae parallel S_2. Very weakly calcareous. PS_2 foliated to massive. Grey fracture surfaces. Moderately hard (weakly silicified). Weak quartz-sericite-chlorite alteration. Red-brown sphalerite laminae (1-3mm wide) parallel S_2. Very good core recovery. Good R&D. Sharp upper contact at CA 70°. Sharp lower contact at CA 80°.</p> <p>Sphalerite-rich pyritic massive sulphide occurs at 599.9-599.95. Reddish-brown sphalerite occurs as masses, bands parallel S_2.</p> |
| L | 5980 | | 5998 | | | | | | | 4D4 | <p>(4D4) 60:40</p> <p>Sphalerite-bearing pyritic massive sulphide containing 50% pyrite, 25% sphalerite, 15% quartz, 10% dolomite. Very weakly calcareous. Massive to PS_2 foliated. Brassy yellow, purplish red-brown, grey-white fracture surfaces. Hard. Brassy yellow fig. (subhedral cubic) pyrite as masses and bands (2-10cm wide). Honey and red-brown fig.-v.fig. (subhedral?) sphalerite as masses and bands (1-4 cm wide) parallel S_2. Off-white (creamy) f.g. (subhedral?) dolomite as patches, laminae-bands parallel S_2.</p> <p>Very good core recovery, R&D. Sharp upper contact at CA 80°. Gradational lower contact // S_2.</p> <p>Sphalerite-rich (25-40%) equivalent occurs at 599.2-599.8. Unit is purplish reddish-brown and has gradational contact with 4D4. (Sharp contact with 599.8).</p> |
| L | 5998 | | 6012 | | | | | | | 4H8F | <p>Magnetite-sphalerite-bearing massive pyrrhotitic sulphides is bronze-coloured and contains 65% pyrrhotite, 10% magnetite, 10% sphalerite, 10% quartz and 5% dolomite. Very weakly calcareous. Massive to PS_2 foliated. Brassy brown fracture surfaces except along white dolomite-quartz veinlet fractures. Hard.</p> |

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|------|----|----|--------|----|-----|----|-------|--|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | | | 30 |
| | | | | | | | | | | | <p>Brassy brown vf.g. (subhedral?) weakly magnetic pyrrhotite as masses. Reddish-brown fg. (subhedral) sphalerite as bands parallel S_2 and masses. Off-white (creamy) fg. (subhedral?) dolomite as veinlets cross-cutting S_2 at $\alpha 0^\circ-30^\circ, 60^\circ-70^\circ$ separating pyrrhotite clasts with leached minor alignment clast-supported matrix. Black fg. (subhedral?) strongly magnetic magnetite as patches and veinlet-fillings.</p> <p>Very good core recovery. Good R&D. Gradational upper contact parallel S_2. Sharp lower contact at $\alpha 70^\circ$.</p> |
| L | 6012 | 6013 | | | | | | | 5A169 | <p>Dark grey to black graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Very weakly calcareous. PS_2 and CS_2 foliated. Black graphitic fracture surfaces. Moderately hard (silicified, weakly). Contains reddish-brown sphalerite laminae-bands (1-3mm wide) parallel S_2; 15% sphalerite overall. Trace disseminated chalcopryite along microfractures. White (kaolinite) fracture at low α. Good core recovery, R&D. Sharp upper contact at $\alpha 70^\circ$. Sharp lower contact at $\alpha 80^\circ$.</p> | |
| L | 6013 | 6015 | | | | | | | 4EA | <p>→464 (100) 95:05</p> <p>Sphalerite-bearing pyritic massive sulphide containing 70% pyrite, 20% quartz, 5% sphalerite and 5% dolomite. Very weakly calcareous. Massive to PS_2 foliated. Brassy yellow fracture surfaces. Hard. Brassy yellow fg. (euhedral-cubic) pyrite as masses and bands (1-4cm wide) parallel S_2. Reddish-brown fg. (subhedral?) sphalerite as bands (1-3cm wide) parallel S_2. Off-white (creamy) fg. anhedral patches (clots) and laminae parallel S_2. Very good core recovery. Good to fair R&D. Sharp upper contact at $\alpha 80^\circ$. Sharp lower contact at $\alpha 50^\circ$ marked by off-white bull quartz band (vein?) parallel S_2.</p> | |

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|------|----|----|--------|----|-----|----|------|-------------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | | | 30 |
| | | | | | | | | | | | Locally contains 5-10% off-white, noncalcareous, soft, dense barite clots. |
| L | 6015 | 6037 | | | | | | | 5A6 | → 5B26 | Dark grey to black graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Very weakly calcareous. CS_2 and PS_2 foliated. Dark grey to black graphitic fracture surfaces. Moderately soft to soft. Pyrite masses and laminae/bands following S_1/S_2 ; 3% pyrite, overall. Good core recovery. Fair to poor R&D. Black to "pokerchippy" at 601.6-602.4. Sharp upper contact at CA 80°. Gradational lower contact parallel S_2 . |
| L | 6037 | 6044 | | | | | | | 5BA6 | → 4L01 | Light to medium grey phyllite with yellowish-green (quartz-sericite-chlorite alteration) tint and off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Very weakly calcareous. CS_2 and PS_2 foliated. Moderately hard (weakly silicified). Minor healed alight-mict clast-supported breccia defined by late quartz-dolomite veinlets at several CA angles. Very good core recovery. Good to fair R&D. Gradational upper contact parallel S_2 . Sharp contact at CA 80°. |
| L | 6044 | 6046 | | | | | | | 4H84 | (4H0) 6040 | Magnetite-sphalerite-bearing massive pyrrhotitic sulphide contains 70% pyrrhotite, 10% magnetite, 2% quartz, 5% sphalerite, 5% dolomite. Very weakly calcareous. Massive to PS_2 foliated. Bronze-brown fig. (subhedral?) pyrrhotite as masses. Black fig. (subhedral) strongly magnetic magnetite as patches. Red-brown sphalerite |

DDH 91.D.Y.-05

2 8

CURRAGH RESOURCES INC.
Lithologic LogPage LLDate: Feb. 19/91 Logged By: D. Halliwell

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|------|----|----|--------|----|-----|----|-------|--------------------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| | | | | | | | | | | | as fig (anhedral?) crystals within bands (2-4cm wide) parallel S_2 . Off-white (gray) fig. (anhedral?) dolomite as clots (patches). Very good core recovery, R&D. Sharp upper contact at CA 80°. Sharp lower contact (undulose), marked by bull quartz. Barren pyrrhotite-only massive sulphide occurs at 604.5-604.6. |
| L | 6046 | 6058 | | | | | | | 10E9 | → 10A9 (10Q) 60:40 | Altered granodiorite-diorite and bull quartz with altered intrusive xenoliths. Light gray (30% dark minerals). Phaneritic-massive igneous texture with plagioclase (60%) quartz (10%), amphibole (20%), K-spar (5%), biotite (5%). Contains dolomite ± yimonite fractures at CA 20°-30° (veinlets). Very good core recovery, R&D. Sharp undulose upper contact. Sharp lower contact at CA 80°. White, hard bull quartz is non-calcareous and has sharp contacts with 10E9 → 10A9, 4H34. |
| L | 6058 | 6061 | | | | | | | 5C4 | | Light to medium gray v. fig. aphanitic metabasitic groundmass, white fig. anhedral (leucocrone?) phenocrysts and black fig. subhedral (amphibole, pyroxene?) phenocrysts with relict porphyritic igneous texture. Overprinted by off-white quartz-dolomite laminae parallel S_2 . Very weakly calcareous. P_2 foliated. Gray fracture surfaces. Moderately soft. Weak yellow-green tint (quartz-sericite-chlorite alteration). Trace disseminated pyrite as fig.-ing anhedral cubes. Very good core recovery. Good R&D. Sharp upper contact at CA 80°. Sharp lower contact at CA 65°. |
| L | 6061 | 6063 | | | | | | | 5B1,6 | | |

DDH 910Y-05
2 8CURRAGH RESOURCES INC.
Lithologic LogPage MMDate: Feb. 19/92 Logged By: D. Halliwell

| Code | From | To | Recov. | No. | Unit | Description | |
|------|------|------|--------|-----|----------------|----------------------|--|
| 1 | 10 | 14 | 16 | 20 | 22 24 26 28 30 | 34 35 | Light to medium grey weakly silicified phyllite with off-white quartz-dolomite siltstone laminae beds following $S_1, S_2/S_2$. Very weakly calcareous. C_2 and P_2 foliated. Moderately hard (weakly silicified). No sulphides. Cross-cut by quartz-dolomite veinlets at $CA 40^\circ, \phi^\circ$. (parallel L_3, L_4, L_5 ?) Very good core recovery. Good RQD. Sharp upper contact at $CA 65^\circ$. Sharp lower contact at $CA 60^\circ$. |
| L | 6063 | 6067 | | | 4H, ϕ | & 4 | Pyrrhotitic massive sulphide containing 90% pyrrhotite, 5% sphalerite and 5% dolomite. Very weakly calcareous. Massive. Minor healed oligonitic clast-supported breccia at 606.5-606.7 with subangular-equant pyrrhotite clasts. Bronze fracture surfaces. Hard. Bronze-brown fig (subhedral?) pyrrhotite as masses. Red-brown fig (subhedral?) sphalerite as wisps. Very good core recovery, RQD. Sharp upper contact at $CA 60^\circ$. Sharp lower contact at $CA 50^\circ$. (Both contacts appear to cross-cut S_2). |
| L | 6067 | 6070 | | | 10C99 | | Pegmatitic granodiorite(?) with abundant arsenopyrite ^(10%) , sphalerite ^(5%) , galena ^(5%) and unknown dark green-turquoise fig euhedral-rhombic unknown mineral (associated with whitish-grey fig euhedral-rhombic arsenopyrite crystals). Remobilized-recrystallized. Very weakly calcareous. Massive intrusive. Brecciated vein. Hard. Very good core recovery, RQD. Sharp upper contact at $CA 50^\circ$. Sharp lower contact at $CA 60^\circ$. |
| L | 6070 | 6075 | | | 4K, ϕ | (4E7) 60:40. BRECCIA | White-grey, very hard, weakly calcareous brecciated unit. Breccia is fairly well-sorted, dip- |

DDH 91DY-05
2 8CURRAGH RESOURCES INC.
Lithologic LogPage NNDate: Feb 19/91 Logged By: D. Halliwell

| Core | From | To | Recov. | No. | Unit | Description | |
|------|------|------|--------|-----|----------------|-------------|---|
| 1 | 10 | 14 | 16 | 20 | 22 24 26 28 30 | 34 35 | <p>met and matrix supported. Good core recovery. Fair R&D. Sharp upper contact at Ct 60° Sharp lower contact at Ct 65°.</p> <p>Angular-elongate clasts of pyrrhotite-bearing pyritic massive sulphide containing 75% pyrite, 15% quartz, 5% pyrrhotite, 5% dolomite. Very weakly calcareous. Massive to P_2 foliated. Brassy yellow fracture surfaces. Hard. Brassy yellow fg (subhedral-cubic?) pyrite as masses. Bronze-brown fg (subhedral?) pyrrhotite as bands (2-5cm wide) parallel S_2. Off-white (cream) fg (subhedral?) dolomite as laminae-bands parallel S_2.</p> |
| 4 | 6075 | 6081 | | | 4E04 | (4E4) 60:40 | <p>Sphalerite-bearing pyritic massive sulphide containing 70% pyrite, 20% quartz, 5% sphalerite and 5% dolomite. Very weakly calcareous. Massive to P_2 foliated. Brassy yellow fracture surfaces. Hard. Brassy yellow fg (subhedral-cubic?) pyrite as masses, bands parallel S_2. Reddish-brown fg (subhedral?) sphalerite as laminae parallel S_2.</p> <p>Locally contains 10% sphalerite (608.0-608.1).</p> |

CURRAGH RESOURCES INC.

GEOTECHNICAL LOG

DDH# 91-DY-05

Units: Feet / Metres

Date: FEB 18/91

Logged By: DRH/RW

Page of

| Run (Length) | TCR (Length) | ROD (Length) | Strength | Degree Breakage | Weathering Alteration | FRACTURES | | | | | | | | | | | | CORE SIZE | COMMENTS |
|-----------------|-----------------|-----------------|----------|--------------------|--------------------------|-----------|-------|-----|------|-------|-------|-----|------|-------|-------|-----|------|--------------|----------|
| | | | | | | 0-30 | | | | 30-65 | | | | 65-90 | | | | | |
| | | | | | | No | Rough | Alt | Type | No | Rough | Alt | Type | No | Rough | Alt | Type | | |
| 569.1 | +0.5 | +0 | | | | | | | | 7+ | | | | 34+ | | | NA | | |
| 572.1 | 3.0 | 1.3 | R2 | 10 | 1 | 0 | - | - | - | 2 | 13 | 10 | S | 47 | 12 | 3 | S | | |
| 575.2 | 3.1 | 2.6 | R2 | 13 | 1 | 0 | - | - | - | 0 | - | - | - | 17 | 12 | 10 | S | | |
| 578.2 | 3.0 | 1.6 | R2 | 14 | 1 | 0 | - | - | - | 1 | 14 | 10 | S | 32 | 12 | 6 | S | | |
| 581.3 | 2.8 | 1.7 | R2 | 13 | 1 | 0 | - | - | - | 2 | 14 | 10 | S | 22 | 12 | 8 | S | | |
| 584.3 | 3.1 | 1.7 | R2 | 14 | 1 | 0 | - | - | - | 2 | 15 | 10 | J | 29 | 12 | 6 | S | | |
| 587.3 | 3.0 | 1.2 | R3 | 12 | 1 | 2 | 15 | 10 | J | 3 | 13 | 10 | J | 37 | 14 | 5 | S | | |
| 590.4 | 3.1 | 1.5 | R3 | 12 | 1 | 2 | 15 | 10 | J | 2 | 15 | 10 | J | 27 | 12 | 6 | S | | |
| 593.4 | 3.0 | 2.4 | R3 | 13 | 1 | 2 | 16 | 10 | J | 3 | 15 | 10 | J | 15 | 12 | 10 | S | | |
| 596.5 | 3.0 | 1.1 | R2 | 11 | 1 | 2 | 15 | 10 | J | 1 | 15 | 10 | J | 35 | 12 | 6 | S | | |
| 599.5 | 3.0 | 2.5 | R3 | 14 | 1 | 0 | - | - | - | 0 | - | - | - | 17 | 12 | 9 | S | | |
| 602.3 | 2.8 | 1.1 | R2/R3 | 8 | 1 | 3 | 15 | 10 | J | 3 | 12 | 10 | S | 52 | 11 | 3 | S | | |
| 605.5 | 3.0 | 1.5 | R2/R3 | 9 | 1 | 0 | - | - | - | 5 | 12 | 10 | S | 36 | 13 | 6 | S | | |
| 608.4 | 3.0 | 1.7 | R3 | 9 | 1 | 1 | 15 | 10 | J | 4 | 14 | 10 | J | 26 | 13 | 6 | S | | |
| 611.4 | 3.0 | 2.1 | R2 | 12 | 1 | 1 | 15 | 10 | J | 3 | 14 | 10 | J | 22 | 12 | 8 | S | | |

| Code | FROM | | TO (At) | | Feature | REC | UPPER Dip Direct | | INTERNAL Dip Direct | | LOWER Dip Direct | | Description | |
|------|------|----|---------|----|---------|-----|------------------|-----|---------------------|----|------------------|----|-------------|--|
| | 10 | 14 | 16 | 20 | | | 22 | 24 | 26 | 28 | 32 | 34 | | 36 |
| F | | | 5849 | | 1.B | | | | | | | | | Blocky, Upper, lower contacts at CA 75° CA 62°; respectively |
| F | 5867 | | 5869 | | 1.B | | | | | | | | | Blocky, Upper, lower contacts at CA 84°, CA 84°; respectively |
| F | | | 5935 | | 1.B | | 20 | 088 | | | | | | Blocky, Graphitic Upper, lower contacts at CA 20°, CA 55°; respectively Vuggy nearby in quartz-dolomite calcite vein at CA 20°. Fault plane at 088°/20° to S ₂ strike |
| F | 6017 | | 6023 | | 2.B | | | | | | | | | Blocky (poker chips), Upper, lower contacts at CA 60°, CA 45° respectively |
| F | 6077 | | 6080 | | 2.B | | | | | | | | | Blocky, Upper, lower contacts at CA 81°, CA 60°; respectively |
| F | 6137 | | 6139 | | 1.B | | | | | | | | | Blocky, Upper, lower contacts at CA 19° CA 57°; respectively |

| Code | From | To | Recov. | No. | Unit | Description |
|------|------|------|--------|-----|-------|--|
| L | 5397 | 5432 | | | 5A1Ø | →5B2 (5A1) 8Ø:2Ø Black to dark grey graphitic phyllite with off-white quartz-calcite siltstone laminae/beds following $S_1, S_2 / S_2$. Moderately calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft to soft. 1-2% pyrrhotite as blebs within quartz pods (lenses) and selvages or fillings of quartz-calcite laminae, beds parallel S_2 . Very good core recovery. Good to fair R&D. Blocky to rubble core at 540.1-540.3, 542.8-543.0. Gradational upper contact parallel S_2 . Gradational lower contact parallel S_2 . Contains harder, possibly lighter-coloured weakly silicified variant. |
| L | 5432 | 5437 | | | 5A6\$ | →5B26 (100#) 8Ø:2Ø Black to dark grey graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2 / S_2$. Very weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft to soft. 2-3% pyrrhotite, ore laminae following S_1, S_2 . Very good core recovery. Good R&D. Gradational upper contact parallel S_2 . Lower graphitic minor (3mm wide) fault gouge lower contact at CA6Ø. White bull quartz at 543.3-543.35 is concordant bed (vein?) parallel S_2 . Sub-unit is moderately calcareous (calcite-bearing), hard, contains xenoliths of 5A6, and has sharp contacts with 5A6 → 5B26. |
| L | 5437 | 5441 | | | 5A6\$ | #BRECCIATED-CHAOTIC (NOT 5A6!) Black to dark grey brecciated-chaotic (fault brecciated?) graphitic phyllite with off-white quartz-dolomite siltstone laminae, beds parallel S_2 . Very weakly calcareous with moderately calcareous ^{calcite} clasts. PS_2 foliated. Black graphitic fracture surfaces. Moderately soft. Healed minor oligomict clast-supported breccia with graphitic phyllite |

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|----|------|----|--------|----|-----|----|----------|-------------|--|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| | | | | | | | | | | | angular-elongate clasts and interstitial quartz-dolomite veinlets (matrix) containing 1% pyrrhotite as mg. subhedral crystals. Very good core recovery, R&D. Sharp minor-graphitic fault gouge contact at CA 60°. Sharp lower contact at CA 65°. |
| L | 5441 | | 5443 | | | | | | 4H18 | | STRONGLY MAGNETIC. (subunit) Pyrrhotitic massive sulphide (or wide pyrrhotite band within 5A6?) containing 70% pyrrhotite, 10% quartz, 10% magnetite, 8% calcite, 2% pyrite. Weakly calcareous, overall. Massive to PS, foliated. Bronze-brown to black fracture surfaces. Hard. Bronze-brown fg. (subhedral?) pyrrhotite as moderately magnetic masses. Black fg. (subhedral to euhedral?) strongly magnetic magnetite as patches (clots) and disseminations. Off-white fg. soft calcareous calcite-quartz clots (< 3cm long x 2cm wide). Very good core recovery. Fair R&D. Sharp upper contact at CA 65°. Sharp lower contact at CA 80°. |
| L | 5443 | | 5444 | | | | | | 5A61# | | (Lump in) Black to dark gray brecciated-chaotic graphitic phyllite with off-white quartz-dolomite siltstone laminae beds parallel S ₂ . Weakly calcareous. PS, foliated. Moderately soft to soft. No sulphides within unit. Very good core recovery, poor R&D. Sharp upper, lower contacts at CA 80°. |
| L | 5444 | | 5451 | | | | | | 4D44 & 8 | | Sphalerite-rich (pyritic) massive sulphide containing 35% sphalerite, 35% pyrite, 15% |

| Code | From | To | Recov. | No. | Unit | Description | |
|------|-------|-------|--------|-------|------------------|--------------------------------|---|
| 1 | 10 | 14 16 | 20 | 22 24 | 26 28 30 | 34 35 | <p>quartz, 8% magnetite, 7% carbonates (dolomite + calcite). Moderately to weakly calcareous. Massive to P_2 foliated. Brassy yellow-purpleish-grey fracture surfaces. Hard. Weak C_2. Purpleish red-brown fg. (subhedral?) sphalerite as masses and bands (1-5 cm wide) parallel S_2. Brassy yellow fg.-mg. euhedral-cubic pyrite as masses and bands (2-8 cm wide) parallel S_2. Black fg. (subhedral-euhedral?) magnetic magnetite as patches and laminae parallel S_2. Off-white fg. (anhedral?) dolomite, calcite as dots and laminae (1-3 mm wide) following S_1, S_2. Trace purpleish grey euhedral-cubic galena at 544.9.</p> <p>Very good core recovery. Good R&D. Sharp upper contact at $O_1 80^\circ$. Brecciated sharp lower contact at $O_1 80^\circ$ with minor healed polymict breccia with angular-elongate clasts of 5A6, 4H (pyrrhotite) ≤ 7 cm long.</p> |
| L | 545.1 | 548.0 | | | 5A6 (4B4 or 5F6) | 8 ϕ :2 ϕ . | <p>Black to dark grey graphitic phyllite with off-white ^{ochre} quartz-dolomite ^{illmanite} siltstone laminae/beds following $S_1, S_2/S_2$. Weakly calcareous. C_2 and P_2 foliated. Black graphitic fracture surfaces. Moderately soft. 1-2% pyrrhotite within quartz-dolomite bands, laminae parallel S_2 as mg. (subhedral) crystals forming segregations. Very good core recovery. Fair to poor R&D. Blacky to "poker-chippy" at 545.8-546.5. Minor healed brecciated upper contact at $O_1 80^\circ$. Fairly sharp lower contact at $O_1 75^\circ$. Quartz-calcite veinlet network at 547.1-547.2.</p> <p>Interbands of yellowish-green grey sericite-chlorite + quartz altered phyllite with off-white quartz-dolomite siltstone(?) laminae parallel S_2. Weakly calcareous, moderately soft, P_2-foliated sub-units occur at 547.7-547.9. Fairly sharp contacts with 5A6 parallel S_2.</p> |
| C | 548.0 | 549.2 | | | 4A, 14 | \rightarrow 5A69 (5F6) 85:15 | |

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|-------|-------|----|----|--------|----|-----|----|------|-------------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| | | | | | | | | | | | <p>Ribbon-banded (sphalerite-rich) quartzite with ribbon-bands of quartz, sphalerite, carbonaceous material, and pyrite. Contains 40% quartz, 30% sphalerite, 15% carbonaceous material (graphite, etc.), 8% dolomite, 7% pyrite. Very weakly calcareous. CS_2 and PS_2 foliated. Black (graphitic), purplish fracture surfaces. Hard. (weakly silicified \pm sericitized)</p> <p>Purplish red-brown fg. (subhedral?) sphalerite as laminae (0.5-1.0 mm), bands (0.1 cm - 1.0 cm) - ribbon bands - following S_1, S_2. Black graphite and other carbonaceous material as similar laminae-bands ("ribbon bands") following S_1, S_2. Rare brassy yellow fg. (subhedral-cubic?) pyrite as similar laminae-bands ("ribbon bands"). Well-developed microtilth texture.</p> <p>Very good core recovery. Good RQD. Sharp upper contact at $CA 75^\circ$. Sharp lower contact at $CA 70^\circ$.</p> |
| | | | | | | | | | | | <p>Olive green-grey chloritic phyllite with off-white quartz-dolomite siltstone laminae/bands following $S_1, S_2/S_2$ occurs at 548.9-549.2 near lower contact. Weakly calcareous. CS_2 and PS_2 foliated. Olive green-grey fracture surfaces. Moderately hard (silicification). 1-2% pyrrhotite, within quartz-dolomite laminae parallel S_2. Gradational contact with 4A14.</p> <p>Olive grey weakly chloritic phyllite/interbands at 548.3, 548.9 are weakly calcareous, soft and have fairly sharp contacts with 4A14 \rightarrow 5A69, 4L19.</p> |
| L | 549.2 | 549.9 | | | | | | | 5A6 | (4A4) 60:40 | <p>Black to dark grey graphitic phyllite with off-white quartz-dolomite siltstone laminae/bands following S_1, S_2, PS_2. Weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft to soft. 1-2% pyrrhotite, along quartz-siltstone laminae following S_1, S_2. Trace pyrite, occurring along with pyrrhotite. Both are forming subhedral cubic (cubic pseudomorphs). Very good core recovery. Good to fair RQD. Blocky core at 549.5. Sharp upper contact at $CA 70^\circ$. Gradational lower contact parallel S_2.</p> |

| Case | From | To | Recov. | No. | Unit | Description |
|------|-------|-------|--------|-----|----------------------|---|
| 1 | 10 | 14 | 16 | 20 | 22 24 26 28 30 34 35 | |
| | | | | | | Sphalerite-bearing variant at 549.6 - 549.9 includes 10% purplish red-brown fig. (subhedral?) sphalerite as laminae parallel S_2 . Ribbon-banded quartzite. Hard. |
| L | 549.9 | 55.09 | | | 5B4 | (5D0:5A0) 90:05:05 Light to medium grey phyllite with yellowish-green tint (sericite-chlorite alteration), off-white quartz-calcite siltstone laminae/beds following $S_1, S_2 / S_2$, and late off-white quartz-calcite veinlets at $\sim 45^\circ$ crosscutting S_1, S_2 (following L_3, L_4 , or L_5 ?). Moderately calcareous. PS_2 and CS_2 foliated. Silvery grey to yellow green tint fracture surfaces. Moderately soft. No sulphides. Very good core recovery. Good RQD. Gradational upper, lower contacts parallel S_2 . Olive green chloritic phyllite interbands are moderately calcareous, moderately soft and have gradational contacts with 5B4 \rightarrow 4L0* parallel S_2 . Black to dark grey graphitic phyllite interbands are moderately calcareous, moderately soft to soft, have black graphitic fracture surfaces, and have gradational contacts with 5B4 \rightarrow 4L0*, 5D0 parallel S_2 . |
| L | 55.09 | 55.24 | | | 4A1A | (4A148) 80:20 Black to dark grey ribbon-banded quartzite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2 / S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Yellowish (sericitic) silvery grey fracture surfaces. Moderately hard (weakly silicified). Contains 35% carbonaceous material, 35% quartz, 10% sphalerite, 15% dolomite and 5% iron sulphides (pyrite + pyrrhotite). Purplish red-brown fig. (subhedral?) sphalerite as laminae following S_1, S_2 . Bronze-brown fig. (subhedral?) pyrrhotite and brassy yellow fig. (cuboidal-cubic) pyrite both occur as laminae parallel S_2 . Very good core recovery. Good RQD. Gradational upper contact parallel S_2 . Sharp lower contact at $\sim 45^\circ$. |

DDH 91.D.Y.-0.5
2 8CURRAGH RESOURCES INC.
Lithologic Log

Page F

Date: Feb. 24/91 Logged By: D. Halliwell

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|-------|----|-------|----|--------|----|-----|----|------|--|--|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| | | | | | | | | | | | Magnetite-pyrrhotite-bearing variant occurring at 551.8-552.0 includes 29% pyrrhotite (pyrite drops to 3%). 10% black fig. (subhedral-euhedral) strongly magnetic magnetite occurs as patches and laminae parallel S_2 (clay mineral content drops to 50%). |
| L | 552.4 | | 554.7 | | | | | | 5CA6 | (5C76:5F46:4A4) 45:40:10:05 (Yellowish-green) gray quartz-sericite-chlorite altered v. fig. aphanitic metabasitic groundmass, white fig. anhedral (leucaxene?) phenocrysts, and black fig. subhedral (pyroxene, amphibole?) phenocrysts within a relict porphyritic igneous texture. Overprinted by off-white quartz-dolomite-calcite [±] limonite and olive chloritic laminae S_2 . Moderately to weakly calcareous. PS_2 foliated. Yellowish (sericitic) grey fracture surfaces. Moderately hard. Very good core recovery. Fair R&D. Blocky core at 553.8-554.0, 555.4-554.7. Sharp upper contact at Ct 75°. Sharp lower contact at Ct 80°. Fig. upper and lower chill margins. (dyke, not a sill?). Chloritic-quartz banded (1-3cm wide bands parallel S_2) variant occurs at 554.0-554.7. | |
| | | | | | | | | | | | Olive gray chloritic phyllite with off-white quartz-calcite siltstone laminae/beds following $S_1, S_2/S_2$ occurs at 554.2-554.4. Sphalerite-rich ribbon-banded quartzite with magnetite occurring at 553.6-553.7 is hard, magnetic, PS_2 and CS_2 foliated, contains 30% purplish red-brown sphalerite as bands following S_1 , and has sharp contacts with 5CA6, 5C76, 5F46. Nose of a fold |
| L | 554.7 | | 555.1 | | | | | | 5A16 | Black to dark gray graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Weakly graphitic. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately hard (weakly silicified). 2-3% bronze-bronze pyrrhotite. | |

| Code | From | To | Recov. | No. | Unit | Description |
|------|----------------------------------|------|--------|-----|------|---|
| | 10 14 16 20 22 24 26 28 30 34 35 | | | | | |
| | | | | | | as bands (3-4cm. wide) parallel S_2 . Very good core recovery. Poor R&D. Blocky core at 554.8-555.0. Sharp upper contact at CA 80°. Sharp lower contact at CA 75°. |
| L | 5551 | 5582 | | | 5C7 | (10Q Φ) 9 Φ :1 Φ Medium olive grey v.f.g. aphanitic groundmass, white f.g. anhedral (leucosome?) phenocrysts and black subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Strongly overprinted by olive green chloritic bands parallel S_2 and off-white quartz-dolomite laminae, bands parallel S_2 . Weakly calcareous, PS_2 foliated. Olive grey fracture surfaces. Moderately hard. Poor core recovery (at least 0.1m. core loss at 557.6-558.1. Fair to poor R&D. Blocky core at 555.3-555.5. Rubbly core at 557.3-558.2. Sharp upper contact at CA 75°. Sharp lower contact (CA angle not discernable). White-cream bull quartz-dolomite concordant band (vein?) subparallel to S_2 occurring at 557.1-557.4 is weakly calcareous, hard and has sharp contacts with 5C7. |
| L | 5582 | 5590 | | | 5A6 | & T Black to dark grey graphitic phyllite with offwhite quartz-dolomite siltstone laminae/beds following $S_1, S_2 / S_1, S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft. Trace pyrrhotite along quartz-dolomite laminae, bands parallel S_2 . Very good core recovery. Poor R&D. Blocky to rubbly core throughout. Sharp upper contact (CA angle not discernable). Sharp lower contact at CA 70°. |

| Core | From | | To | | Recov. | | No. | | Unit | Description |
|------|------|----|------|----|--------|----|-----|----|------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | | |
| L | 5590 | | 5594 | | | | | | 5C7 | (4A0) 70:30 Olive grey v. fig. aphanitic metabasitic groundmass, white fig. anhedral (leucocrone?) phenocrysts and black fig. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Overprinted by olive grey chloritic laminar parallel S_2 . Weakly calcareous. PS_2 foliated. Olive grey and ochre (limonite) fracture surfaces. Moderately hard. No sulphides. Sharp upper contact at CA 70°. Sharp lower contact at CA 80°. Black to dark grey ribbon-banded quartzite at 559.2-559.4 are weakly calcareous, soft, have black graphitic fracture surfaces and sharp contacts with 5C7. |
| L | 5594 | | 5607 | | | | | | 4A4 | (5A6) 60:40 Black to dark grey ribbon-banded quartzite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately hard. 1-2% pyrrhotite, as disseminations and bands (1-3 cm wide) parallel S_2 . Trace disseminated pyrite as bands parallel S_2 . Very good core recovery. Good to poor RQD. Blocky to rubbly core at 560.0-560.4. Sharp upper contact at CA 80°. Sharp lower contact at CA 60°. Black graphitic non-calcareous phyllite is softer and has gradational contacts with 4A4. |
| L | 5607 | | 5613 | | | | | | 5C4 | Olive grey v. fig. aphanitic metabasitic groundmass, white fig. anhedral (leucocrone?) phenocrysts and black fig. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Chloritic S_2 ^{overprint} . Olive grey ^{yellowish} fracture surfaces. Moderately soft. Very good core recovery. Good RQD. Sharp upper contact at CA 70°. Sharp lower contact at CA 80°. |

| Code | From | To | Recov. | No. | Unit | Description |
|------|-------|-------|----------|----------|-------|--|
| | 10 | 14 16 | 20 22 24 | 26 28 30 | 34 35 | |
| L | 561.3 | 561.7 | | | 5A61 | (4A4:100) 93:05:02 Black to dark gray graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately hard (weakly silicified). 2-3% pyrrhotite, as laminae parallel S_2 and quartz-dolomite veinlets, along with trace chalcopryite. Very good core recovery. Fair to poor RQD. Blocky to rubble core at 561.3-561.7. Occasional ochre limonite stain on fractures and along veins. Gradational upper contact parallel S_2 . Sharp lower contact at $C180^\circ$. White grey bull quartz concordant band (vein?) at 561.9 subparallel S_2 , is non-calcareous, hard and has sharp contacts with 5A61. |
| L | 562.1 | 563.3 | | | 5C6 | (5C0:5F46:4A0) 60:25:10:05 Medium gray v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (leucocrase?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Overprinted by off-white quartz-dolomite and black carbonaceous bands parallel S_2 , weakly calcareous. PS_2 foliated to massive. Gray fracture surfaces. Moderately hard. No sulphides. Very good core recovery, RQD. Sharp upper contact at $C180^\circ$. Sharp lower contact at $C175^\circ$. Calcareous metabasite at 562.8-563.2 has same relict porphyritic igneous texture and S_2 overprint, is PS_2 foliated, is moderately calcareous (quartz-calcite laminae, bands) and has sharp contact with 5F46 above. Yellowish-green-gray (sericite-chlorite altered) phyllite is weakly calcareous, CS_2 and PS_2 foliated, is ^{moderately} soft, and has fairly sharp contacts with 5C6 & 2, 5C0 parallel S_2 . Contains 3-4% pyrrhotite. Some black carbonaceous ribbon-banded quartzite |
| | 563.3 | 564.3 | | | 5A0 | & 1 |
| L | 564.3 | 565.2 | | | 5B0 | (5C0:5B4) 60:30:10 Black graphitic phyllite with siltstone laminae, beds as above. Moderately calcareous, hard |

DDH 91.DY-05
2 8

CURRAGH RESOURCES INC.

Page J

Lithologic Log

Date: Feb. 21/91 Logged By: D. Halliwell

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|------|----|----|--------|----|-----|----|------|-------------|---|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | | | 30 |
| | | | | | | | | | | | <p>Black to dark grey graphitic phyllite with off-white quartz-calcite laminae/beds following $S_1, S_2 / S_2$. Moderately calcareous. CS_2 and PS_2 foliated. Moderately soft to soft. 2-3% pyrrhotite within quartz-calcite laminae/beds following $S_1, S_2 / S_2$ as fg.-c.g. (≤ 1.5 cm. dia.) ^{brn. brown} subhedral-euhedral rhombs and crystal forms with basal cleavage. Trace brassy yellow c.g. euhedral-cubic pyrite along fractures. Very good core recovery. Good R&D. Sharp upper contact at $C475^\circ$. Gradational lower contact parallel S_2.</p> <p>Interbeds of yellowish-green tinted grey phyllite (weakly sericitized-chloritized) with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2 / S_2$. Moderately calcareous. CS_2 and PS_2 foliated. Grey \pm yellow fracture surfaces. Moderately soft. 1-2% pyrrhotite within laminae following S_1, S_2. Fairly sharp contacts parallel S_2.</p> |
| L | 5652 | 5654 | | | | | | | 5A6 | | <p>Black to dark grey graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2 / S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft to soft. Approx. 5% pyrrhotite as bronzebrown c.g. euhedral-rhombic crystals within quartz-dolomite band. Good core recovery. Fair R&D. Gradational upper contact parallel S_2. Sharp lower contact at $C480^\circ$.</p> |
| L | 5654 | 5667 | | | | | | | 5C6 | | <p>(5A6:5B4) 95:04:01.</p> <p>Light to medium grey v.f.g. aphanitic metabasitic groundmass, white f.g. anhedral (leuc-xene?) phenocrysts and black f.g. subhedral (amphibole, pyroxene?) phenocrysts within relict porphyritic igneous texture. Overprinted ^{strongly} by olive grey chloritic bands, black carbonaceous laminae parallel S_2. Weakly calcareous. PS_2 foliated to massive. Grey fracture surfaces. Moderately hard. Very good core recovery, R&D. Sharp upper contact at $C480^\circ$. Healed brecciated bull quartz veins intersecting at $A5^\circ$; $C150^\circ$ at 566.6.</p> |

| Code | From | | To | | Recov. | | No. | | Unit | Description | |
|------|------|------|----|----|--------|----|-----|----|-------|---------------------|--|
| | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 30 | | 34 |
| | | | | | | | | | | | <p>Sharp lower contact at $\text{Cl}65^\circ$.</p> <p>Black graphitic phyllite at 566.3 is weakly calcareous, soft, CS_2 and PS_2 foliated and has sharp $\text{Cl}75^\circ$ contacts with 5C6.</p> <p>Yellowish-green grey sericite-chlorite altered phyllite interbands are weakly calcareous moderately soft and have sharp contacts with 5C6 (gradational contacts with 5A6).</p> |
| L | 5667 | 5672 | | | | | | | 5B4.6 | (5A6) 80:20 | <p>Yellowish-green grey sericite-chlorite altered phyllite with off-white quartz-dolomite siltstone laminae/beds following $\text{S}_1, \text{S}_2 / \text{S}_2$. Weakly calcareous, PS_2 and CS_2 foliated. Yellowish grey fracture surfaces. Moderately soft. 1-2% pyrrhotite within laminae parallel S_2. Very good core recovery. Good R&D. Sharp lower contact at $\text{Cl}65^\circ$. Gradational lower contact parallel S_2.</p> <p>Black graphitic phyllite is weakly calcareous, soft, cross-cut by quartz-dolomite-pyrrhotite veinlets and has gradational contacts parallel 5B4.6.</p> |
| L | 5672 | 5736 | | | | | | | 5A6 | → 5B26 (5B46) 98:02 | <p>Black to dark grey graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $\text{S}_1, \text{S}_2 / \text{S}_2$. Weakly calcareous, CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft to soft. Pyrrhotite along laminae following S_1, S_2. Very good core recovery. Good R&D. Gradational contacts parallel S_2. Cross cut by quartz-dolomite veinlets at $\text{Cl}0^\circ-30^\circ$ (post-S_1, S_2).</p> <p>Yellowish-green grey (sericite-chlorite altered) phyllite/siltstone interbands are weakly calcareous, CS_2 and PS_2 foliated, moderately soft and have gradational contacts parallel S_2.</p> |

| Code | From | To | Recov. | No. | Unit | Description |
|------|----------|----------|----------|-------|-------------------------|--|
| | 10 14 16 | 20 22 24 | 26 28 30 | 34 35 | | |
| L | 5736 | 5760 | | | 5B26 (5F46) 55:45 | Dark grey graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Moderately soft. Vuggy at 575.0. Trace pyrrhotite, within quartz-dolomite laminae, beds following S_1, S_2 . Very good core recovery. Good R&D. Late quartz-dolomite veinlets at CA 20° , 60° . Gradational upper, lower contact parallel S_2 . |
| | | | | | | Yellowish-green grey (sericite-chlorite altered) phyllite with off-white quartz-dolomite laminae/beds following $S_1, S_2/S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Moderately soft. No sulphides. Gradational contacts with 5B26 parallel S_2 . |
| L | 5760 | 5805 | | | 5A6 (5A69:4A4) 97:02:01 | Black to dark grey graphitic phyllite with off-white quartz-dolomite siltstone laminae/beds following $S_1, S_2/S_2$. Weakly calcareous. CS_2 and PS_2 foliated. Black graphitic fracture surfaces. Moderately soft to soft. 1-2% pyrrhotite within quartz-dolomite laminae, beds following S_1, S_2 . Very good core recovery. Good to very good R&D. Gradational upper contact parallel S_2 . Lower contact |
| | | | | | | Sphalerite and galena-bearing graphitic phyllite at 579.5-580.5 includes pyrrhotite and reddish-black sphalerite within laminae, beds following S_1, S_2 and trace purplish-grey f.g. subhedral-cubic crystals associated with sphalerite. Includes black carbonaceous ribbon-banded quartzite, which is harder and contains most of the mineralization. |

CURRAGH RESOURCES INC.

GEOTECHNICAL LOG

DDH# 910Y-05

Units: Feet / Metres

Date: Feb. 21/91

Logged By: D. Halliwell

Page of

| Run (Length) | TCR (Length) | RQD (Length) | Strength | Degree Breakage | Weathering Alteration | FRACTURES w/ CA | | | | | | | | | | | | CORE SIZE | COMMENTS |
|---------------------------|-----------------|-----------------|----------|--------------------|--------------------------|-----------------|-------|-----|------|-------|-------|-----|------|-------|-------|-----|------|--------------|----------|
| | | | | | | 0-30 | | | | 30-65 | | | | 65-90 | | | | | |
| | | | | | | No | Rough | Alt | Type | No | Rough | Alt | Type | No | Rough | Alt | Type | | |
| 540.6 | 0.8+ | 0.1? | R2? | 7? | 1? | 0? | - | - | - | 4+ | 13 | 10 | S | 17 | 12 | 8 | S | NQ | |
| 541.6 | 0.9 | 0.6 | R2 | 11 | 1 | 0 | - | - | - | 0 | - | - | - | 11 | 12 | 10 | S | 7 | |
| 543.2 | 1.6 | 0.4 | R2 | 9 | 1 | 1 | 16 | 10 | J | 2 | 15 | 10 | J | 31 | 12 | 6 | S | | |
| 546.2 | 3.1 | 1.7 | R3 | 12 | 1 | 1 | 16 | 10 | J | 3 | 16 | 10 | J | 44 | 13 | 3 | S | | |
| 549.2 | 3.1 | 1.0 | R2 | 11 | 1 | 1 | 16 | 10 | J | 3 | 14 | 10 | J | 59 | 14 | 3 | S | | |
| 552.3 | 3.0 | 0.7 | R2 | 12 | 1 | 1 | 16 | 10 | J | 2 | 15 | 10 | J | 53 | 14 | 3 | S | | |
| 555.3 | 3.1 | 0.9 | R2 | 9 | 1 | 0 | - | - | - | 2 | 14 | 10 | J | 60 | 12 | 2 | S | | |
| 557.6 | 1.2 | 0.1 | R3 | 9 | 1 | 1 | 12 | 10 | J | 1 | 16 | 10 | J | 30 | 12 | 6 | S | | |
| 558.1 | 0.5 | 0.0 | R2 | 5 | 2 | 1 | 14 | 10 | J | 2 | 14 | 10 | S | 19 | 12 | 8 | S | | |
| 561.1 | 3.1 | 0.4 | R2 | 7 | 1 | 1 | 16 | 10 | J | 4 | 15 | 10 | J | 64 | 12 | 2 | S | | |
| 563.2 | 2.3 | 0.9 | R3 | 10 | 1 | 1 | 16 | 10 | J | 1 | 16 | 10 | J | 35 | 12 | 6 | S | | |
| 566.0 | 2.8 | 1.4 | R3 | 11 | 1 | 1 | 16 | 10 | J | 4 | 16 | 10 | J | 21 | 12 | 8 | S | | |
| 569.1 | 3.1 | 1.8 | R2 | 12 | 1 | 2 | 16 | 10 | J | 6 | 14 | 10 | J | 32 | 12 | 6 | S | | |
| 572.1 | 3.1 | 1.2 | R2 | 11 | 1 | 0 | - | - | - | 6 | 14 | 10 | S | 33 | 12 | 6 | S | | |
| 575.2 | 3.1 | 2.2 | R2 | 12 | 1 | 0 | - | - | - | 1 | 16 | 10 | J | 19 | 12 | 6 | S | | |
| 578.2 | 3.0 | 1.8 | R2 | 12 | 1 | 0 | - | - | - | 2 | 14 | 10 | S | 30 | 12 | 6 | S | | |
| | 1.7+ | 1.2+ | R2? | 13? | 1? | 0? | - | - | - | 1+ | 14 | 10 | S | 9+ | 12 | 10 | S | | |
| CONTINUED ON NEXT PAGE | | | | | | | | | | | | | | | | | | | |

DDH 910Y-05
2 8

CURRAGH RESOURCES INC.
 Structural Log

Page _____ of _____

Date: Feb. 21/91 Logged By: D. Hallinell

| Code | From | To | Feature | Sym | S ₀ | | S ₁ | | S ₂ | | Description | | |
|-----------|------|-----|---------|-----|----------------|---------|----------------|---------|----------------|---------|-------------|-----|----|
| | | | | | Dip | Direct. | Dip | Direct. | Dip | Direct. | | | |
| 1 | 10 | 14 | 16 | 20 | 22 | 24 | 26 | 28 | 32 | 34 | 38 | 40 | 44 |
| S | | 542 | CS2Z | - | | | | | 039 | 20 | 202 | 79 | - |
| S | | 550 | CS2S | - | | | | | 045 | 57 | 008 | 67 | - |
| S | | 553 | CS2S | - | | | | | 117 | 23 | 032 | 77 | - |
| S | | 560 | CS2Z | - | | | | | 053 | 10 | 000 | 87 | - |
| S | | 568 | CS2Z | - | | | | | 048 | 67 | 008 | 875 | - |
| S | | 572 | CS2S | - | | | | | 331 | 41 | 379 | 80 | - |
| S | | 579 | CS2Z | - | | | | | 089 | 38 | 233 | 74 | - |
| CONTINUED | | | | | | | | | | | | | |
| ON | | | | | | | | | | | | | |
| NEXT PAGE | | | | | | | | | | | | | |

Fault Log

Date: Feb. 21/91 Logged By: D. Halliwell

| Code | FROM | | TO (At) | | Feature | REC | UPPER | | INTERNAL | | LOWER | | Description |
|------|------|----|---------|----|-------------------|-----|-------|----|----------|----|-------|----|---|
| | 10 | 14 | 16 | 20 | | | 22 | 24 | 26 | 28 | 32 | 34 | |
| F | 54 | 01 | 54 | 03 | 1B ₁ | | | | | | | | Blocky. Upper, lower contacts at CA 52°, CA 57°; respectively. Graphitic fractures, narrow gauge. |
| F | 54 | 28 | 54 | 30 | 1B ₁ | | | | | | | | Blocky. Upper, lower contacts at CA 71°, CA 60°. Graphitic gauge (thin). |
| F | 55 | 60 | 55 | 85 | 3R ₁ | | | | | | | | Rubby. Upper, lower contacts at CA 85°, CA 60°; respectively. |
| F | 55 | 83 | 55 | 84 | 2G | | | | | | | | Graphitic gauge at CA 81°. Impossible to measure attitudes w.r.t. S ₂ strike. |
| F | 56 | 02 | 56 | 04 | 2B ₁ R | | | | | | | | Blocky-rubby. Upper, lower contacts at CA 74°, CA 74°; respectively. Graphitic narrow gauge. |

February 22, 1991

Curragh Resources Inc.
117 Industrial Road.
Whitehorse, Yukon
Y1A 2T8

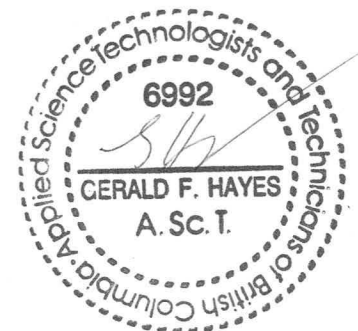
Work Order # 13071

File # 13071

P.O. # 400296

Assay Certificate

| Sample | g/t Au | g/t Ag | %Pb | %Zn | %Fe | SG |
|--------|--------|--------|-------|-------|-------|------|
| 65329 | 1.25 | 123.0 | 9.05 | 10.24 | 19.38 | 4.04 |
| 65330 | 1.02 | 89.0 | 5.46 | 4.78 | 24.11 | 4.32 |
| 65331 | 1.16 | 132.3 | 8.06 | 10.60 | 22.59 | 4.30 |
| 65332 | 0.36 | 4.3 | 0.48 | 1.16 | 8.78 | 2.85 |
| 65333 | 0.81 | 32.2 | 2.31 | 2.73 | 17.70 | 3.42 |
| 65334 | 0.98 | 61.4 | 4.10 | 7.86 | 17.20 | 3.68 |
| 65335 | 0.88 | 66.7 | 4.32 | 10.60 | 15.49 | 3.34 |
| 65336 | 0.83 | 190.8 | 11.20 | 22.20 | 15.96 | 4.23 |
| 65337 | 1.27 | 130.7 | 9.21 | 16.10 | 12.42 | 3.68 |
| 65338 | 0.55 | 87.4 | 4.58 | 10.10 | 10.25 | 3.36 |
| 65339 | 0.12 | 3.5 | 0.21 | 0.29 | 4.25 | 2.58 |
| 65340 | 0.85 | 85.6 | 3.55 | 9.39 | 11.51 | 3.39 |
| 65341 | 0.51 | 70.5 | 3.00 | 9.45 | 20.21 | 3.73 |
| 65342 | 0.32 | 13.3 | 1.09 | 4.09 | 28.46 | 3.86 |
| 65343 | 0.09 | 9.8 | 0.75 | 1.65 | 15.97 | 3.26 |
| 65344 | 0.62 | 192.1 | 7.92 | 23.90 | 10.56 | 3.88 |
| 65345 | 0.31 | 31.2 | 2.57 | 6.39 | 12.20 | 3.18 |
| 65346 | 0.62 | 169.8 | 8.23 | 22.80 | 12.81 | 3.94 |
| 65347 | 0.94 | 106.1 | 6.95 | 13.60 | 16.48 | 3.89 |
| 65348 | 0.47 | 108.6 | 6.20 | 21.40 | 6.34 | 3.39 |
| 65349 | 0.04 | <0.1 | 0.05 | 0.11 | 3.55 | 2.54 |
| 65350 | 0.06 | <0.1 | 0.06 | 0.07 | 4.40 | 2.69 |
| 65351 | 0.11 | 50.8 | 3.44 | 7.14 | 31.58 | 3.74 |
| 65352 | 0.06 | 1.5 | 0.16 | 0.32 | 3.25 | 2.86 |
| 65353 | 0.03 | <0.1 | 0.03 | 0.02 | 4.40 | 2.86 |
| 65354 | 0.16 | 60.2 | 3.29 | 9.57 | 40.78 | 4.22 |
| 65355 | 0.43 | 67.2 | 3.81 | 10.60 | 17.23 | 3.47 |
| 65356 | 0.42 | 108.6 | 4.35 | 9.54 | 18.44 | 3.77 |
| 65357 | 0.40 | 49.4 | 2.60 | 6.64 | 28.52 | 4.11 |



March 1, 1991

Work Order # 13074

Curragh Resources Inc.
117 Industrial Road.
Whitehorse, Yukon
Y1A 2T8

File # 13074b

P.O. # 400300

Assay Certificate

| Sample | g/t Au | g/t Ag | %Pb | %Zn | %Fe | SG |
|--------|--------|--------|-------|------|-------|------|
| 65358 | 0.07 | 3.1 | <0.01 | 0.02 | 3.18 | 2.79 |
| 65359 | 0.06 | 5.2 | 0.28 | 0.41 | 6.27 | 2.81 |
| 65360 | 0.29 | 99.6 | 4.05 | 8.55 | 20.52 | 3.42 |
| 65361 | 0.42 | 69.1 | 3.41 | 7.22 | 14.79 | 3.45 |
| 65362 | 0.06 | 0.9 | 0.05 | 0.11 | 3.94 | 2.80 |
| 65363 | 0.08 | 0.7 | 0.04 | 0.17 | 3.30 | 2.79 |
| 65364 | 0.31 | 39.9 | 2.01 | 4.52 | 2.57 | 2.87 |
| 65365 | 0.11 | 8.3 | 0.51 | 1.43 | 3.51 | 2.77 |
| 65366 | 0.28 | 17.8 | 1.01 | 2.04 | 4.39 | 2.84 |
| 65367 | 0.10 | 10.8 | 0.81 | 0.11 | 3.49 | 2.81 |
| 65368 | 0.66 | 31.5 | 1.82 | 2.89 | 5.76 | 2.59 |
| 65369 | 0.04 | 0.6 | 0.07 | 0.09 | 5.44 | 2.81 |
| 65370 | 0.07 | 2.6 | 0.20 | 0.32 | 3.68 | 2.78 |
| 65371 | 0.09 | 5.5 | 0.30 | 0.40 | 3.23 | 2.74 |
| 65372 | 0.02 | <0.1 | 0.02 | 0.09 | 2.79 | 2.75 |
| 65373 | 0.02 | 1.3 | 0.26 | 0.83 | 7.12 | 2.67 |
| 65374 | 0.01 | 2.6 | 0.25 | 0.35 | 4.99 | 2.82 |
| 65375 | 0.44 | 19.5 | 1.44 | 2.32 | 4.54 | 2.74 |
| 65376 | 0.01 | <0.1 | 0.04 | 0.10 | 4.80 | 2.85 |
| 65377 | 0.16 | 3.9 | 0.31 | 0.91 | 10.28 | 2.94 |
| 65378 | 0.02 | <0.1 | 0.06 | 0.21 | 2.86 | 2.80 |
| 65379 | 0.04 | <0.1 | 0.06 | 0.18 | 2.20 | 2.82 |
| 65380 | 0.23 | 19.7 | 1.07 | 2.06 | 3.45 | 2.85 |



March 6, 1991

Work Order # 13077

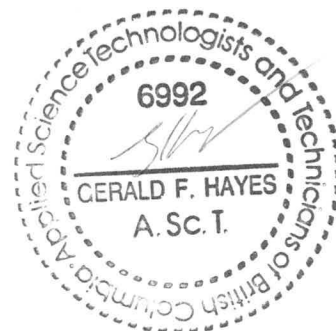
Curragh Resources Inc.
117 Industrial Road.
Whitehorse, Yukon
Y1A 2T8

File # 13077a

P.O. # 400301

Assay Certificate

| Sample | g/t Au | g/t Ag | %Pb | %Zn | %Fe | SG |
|--------|--------|--------|-------|------|-------|------|
| 65381 | <0.01 | 1.9 | 0.06 | 0.13 | 4.01 | 2.81 |
| 65382 | 0.34 | 3.4 | 0.23 | 0.08 | 20.09 | 3.26 |
| 65383 | <0.01 | 0.8 | <0.01 | 0.02 | 3.32 | 2.61 |
| 65384 | 0.35 | 1.3 | 0.02 | 0.04 | 14.83 | 3.17 |
| 65385 | 0.01 | 0.6 | <0.01 | 0.06 | 2.22 | 2.80 |
| 65386 | 0.02 | 0.9 | <0.01 | 0.07 | 4.41 | 2.85 |
| 65387 | 0.63 | 5.6 | 0.08 | 0.05 | 25.91 | 3.83 |
| 65388 | 0.59 | 16.9 | 1.09 | 0.92 | 26.21 | 3.58 |
| 65389 | 0.10 | 7.1 | 0.57 | 0.67 | 14.81 | 3.10 |
| 65390 | 0.73 | 27.0 | 2.35 | 1.61 | 31.84 | 3.88 |
| 65391 | 0.07 | 0.6 | 0.03 | 0.07 | 5.13 | 2.85 |
| 65392 | 0.02 | 1.9 | 0.05 | 0.08 | 4.15 | 2.77 |
| 65393 | 0.30 | 5.0 | 0.11 | 0.08 | 24.70 | 3.62 |
| 65394 | 0.34 | 4.4 | 0.08 | 0.05 | 25.64 | 3.31 |
| 65395 | 0.32 | 5.5 | 0.02 | 0.02 | 22.60 | 3.54 |
| 65396 | 0.44 | 3.8 | 0.03 | 0.06 | 23.19 | 3.79 |
| 65397 | 0.59 | 3.6 | 0.05 | 0.03 | 25.50 | 3.82 |
| 65398 | 0.36 | 4.1 | 0.09 | 0.04 | 22.86 | 3.68 |
| 65399 | <0.01 | 1.2 | 0.01 | 0.05 | 3.85 | 2.82 |
| 65400 | 1.92 | 14.6 | 0.98 | 1.03 | 18.85 | 3.42 |
| 65401 | 0.91 | 11.8 | 0.83 | 0.25 | 29.77 | 4.11 |
| 65402 | 0.65 | 11.9 | 0.87 | 0.75 | 30.16 | 4.25 |
| 65403 | 0.49 | 16.9 | 1.24 | 1.15 | 20.90 | 3.73 |
| 65404 | 0.05 | 1.8 | 0.04 | 0.06 | 3.03 | 2.78 |



| HOLE-ID | FROM | TO | INTERVAL | NR | SAMPLE # | ROCK CODE | |
|---------|-------|-------|----------|----|----------|-------------|-------|
| 91DY05 | 584.5 | 585.6 | 0.7 | | 55329 | 4E4(4G4) | 19.29 |
| 91DY05 | 585.6 | 586.6 | 0.9 | | 55330 | 4G0* | 10.24 |
| 91DY05 | 586.6 | 587.7 | 1.2 | | 55331 | 4G0 | 18.66 |
| 91DY05 | 587.7 | 588.2 | 0.5 | | 55332 | 5A81 | 1.64 |
| 91DY05 | 588.2 | 588.6 | 0.3 | | 55333 | 4C4 | 5.04 |
| 91DY05 | 588.6 | 590.0 | 1.5 | | 55334 | 4D4 | 11.96 |
| 91DY05 | 590.0 | 590.5 | 0.5 | | 55335 | 4C4 | 14.92 |
| 91DY05 | 590.5 | 591.6 | 1.1 | | 55336 | 4G4 | 33.40 |
| 91DY05 | 591.6 | 592.2 | 0.6 | | 55337 | 4G44 | 25.31 |
| 91DY05 | 592.2 | 592.7 | 0.5 | | 55338 | 4C48 | 14.68 |
| 91DY05 | 592.7 | 595.0 | 2.3 | | 55339 | 5A6 | .50 |
| 91DY05 | 595.0 | 595.5 | 0.5 | | 55340 | 4A4 | 12.94 |
| 91DY05 | 595.5 | 596.0 | 0.5 | | 55341 | 4D4 | 12.45 |
| 91DY05 | 596.0 | 596.5 | 0.5 | | 55342 | 4G48 | 5.18 |
| 91DY05 | 596.5 | 597.1 | 0.6 | | 55343 | 5C14(4R8A7) | 2.40 |
| 91DY05 | 597.1 | 597.7 | 0.6 | | 55344 | 4G44 | 31.82 |
| 91DY05 | 597.7 | 598.0 | 0.3 | | 55345 | 5C41(4E4) | 8.96 |
| 91DY05 | 598.0 | 599.2 | 1.2 | | 55346 | 4D4 | 31.03 |
| 91DY05 | 599.2 | 599.6 | 0.4 | | 55347 | 4D44 | 20.55 |
| 91DY05 | 599.6 | 601.5 | 1.7 | | 55348 | 4D4-->4B4 | 27.60 |
| 91DY05 | 601.5 | 603.7 | 2.2 | | 55349 | 5A6(5B62) | .16 |
| 91DY05 | 603.7 | 604.4 | 0.7 | | 55350 | 5B46-->4L0 | .13 |
| 91DY05 | 604.4 | 604.6 | 0.2 | | 55351 | 41184 | 10.58 |
| 91DY05 | 604.6 | 605.8 | 1.2 | | 55352 | 10E9(10Q) | .48 |
| 91DY05 | 605.8 | 606.3 | 0.5 | | 55353 | 5B16 | .05 |
| 91DY05 | 606.3 | 606.7 | 0.4 | | 55354 | 4H0 | 12.86 |
| 91DY05 | 606.7 | 607.0 | 0.3 | | 55355 | 10C99 | 14.41 |
| 91DY05 | 607.0 | 607.5 | 0.5 | | 55356 | 4K0 | 13.89 |
| 91DY05 | 607.5 | 608.1 | 0.6 | | 55357 | 4B04 | 9.24 |

584.5-608.1
23.2m
@ 12.581
pb+2e