

Co. DURHAM

BM. Millerite cluster of needles off matrix
"Weardale" [? Boltsburn M.]

N. Hubbard, spec → RSWB 4/85 (85-71)

Niccolite, veinlets in calcite. "Weardale
area, loc. still secret"

Alstonite

Dur.

New Brancepeth Coll'y

Aluminite

Dur

Ushaw Moor Coll'y. (?)

Aluminium minerals, unspec. Dur

Hetton Coll'y ("a sol. Al sulphate")

Aluminocopiapite

Dcr

Hawthorn Dene

Alunite

Dur

Ushaw Moor Colly [error for? aluminite]

Analcime

Dur

(Common in Whm Hill)

Cammock Eals L

Copt Hill Q

High Force Q

Force garth Q

Anglesite

Dur

Highfield M

Westernhope M's

Flusheimere M

Pike Law

Wiregill M

Manor gill M

Dry pry V (v.g.)

Castleside mill (slag; vg).

Killhope M

Anhydrite

Billingham

Little Stainton(?)

Dur

Ankerite

Dur

Boltonburn M
 Boltonburn W. L
 Burntree Pasture M
 Carricks M
 Cowgreen M
 Greenhenth M
 Green Lows M
 Hawksike Wush
 Hope L
 Jeffreys M

Killhope M
 Lady's Lake
 Levelgate L
 Lodge Sike M (Middleton)
 Middlehope M
 * Breckonsike M
 Rams Law M
 Red Grooves M
 Slitt M
 Stanhopeburn M (?)

Ank

Wearhead V

Wearmouth Coll

Gooverake M

Eastgate Q (?)

West Rigg M (?)

Manorgill M

Westernhope M's

Yew Tree M

Middlegrove V

Annabergite

Dur

Lady's Rake

Apjohnite

Dur.

Hawthorn bene (very doubtful)

Apophyllite
(in Whin sill)
Coast Hill Q

Cammock Eals L

High Force Q

Force Garth Q

Dur

Aragonite

Dur.

Dryburn V Ms

Green Lows M

Heights Ms

Langtæ Head M

Lodge Gill M

"Luffton Hill Pit"

Lunton Hill Coal Pits

Pike Law

South Langtæ Head V

Sikehead M

Castleside Mill [slag]

Aurichalcite

bar.

Greenhurst M

Augite

See also "pyroxene"

Teesdale

Dur

Azomite

Dur.

"Wassinghope" Pb M
Westernhope M's.
Raisby Q
Yew Tree M

Baryte (I)

Dur

Bands M
 Black Hill Top
 Bowles Fm
 Bowles Q
 Burn Hill V
 Cabin Hill
 California M
 Castenhole V
 Chilton Q
 Coldberry Vs

Cowgreen M
 Craghead Coll
 Croxdale Coll
 Dryburn V Ms
 Drygill Sike
 Durbysike M
 Esh Coll
 Felling Coll
 Flushiemere M
 Grass Hill Ms
 Gravelheads Green

Ba

Greenhenth M
Hargill Beck
Hart hope Vs
Healey field M
High field M
High Hurth V
Kill hope M
Knitsley Fell
Ladys Rake
Lanchester
Langdon M

Langdon Head Ms
Langdale Head M
Little Knuckton Burn
Little Stainton
Lumley 6th Pit
Morrison N Pit
New Brancepeth Coll
Pike Law
Pike stone M
Reddycomb M
Red gill Sike V

Baryte (II)

Dur

Sedgefield

Snangill M

Standalone Fm

Swandale Head

Trough M

Ushaw Moor Coll

"Wassinghope Pb M"

Waterhouses Coal M

West Binks Edge V

Willyhole M

Newton Aycliffe

Raisby

South Moor Coll'y

Bindheimite

Dur

Pike Law

California M (??)

Drypy V.

Bismuthinite

Dur

Groverake M
Cammock Fals Lev
Redburn M
Whiteheaps M
Westernhope Ms

Bituminous minerals

Dur.

Pelton Coll (Hatchettine)
Urpeth Coll (Hatchettine,
ozokerite)

Brochantite

Dur

Castleside Mill (in slag) (?)

Groverake M

Westernhope M

Cadmium sulphide (amorph)

Dur.

Ashgillhead M

Trough M

Willyhote M

Greenbush M.

Calcute (I)

Dur

Blackdene M
Bollhope Freehold + V
Boltonburn M
Burnhope M
Burtree Pasture M
Carricks M
Cornish Hush
Dryburn V Ms
Etersgill Ms
Greenhuth M

Forcegarth Q
Green Laws M
Groverake M
Heights Ms
Heights Qs
Killhope M
Levelgate L
Little Stainton
Lodge Gill M
Morrison N Pk
Old Fall M

Ca California M
St Johns Chapel
Scrath Head M
Stotfield Burn M
Swandale M
Tanfield Moor Coll
Wellheads Hush
Whitfield Brow
Wolfcough M
Sikehead M
Slit W Level
Cammock Eals L
New Brancepeth Coll'y

Hight Hirth
Rogerley Q
Cadger Well Lev.
Lady's Rake
Eastgate Q
Newton Aycliffe
Raisby
Coldberry M, M-in-Teesdale
Chilton Q
Coxhoe
Prior's Close
Greenfoot Q

Calcite (II)

Dur

Yew Tree M.

Caledonite

Dur

Castleside mill (slag)

Cassiterite

Dur.

groverake M.

Celestine

Dur.

Coxhoe

Censusite

Dur.

Fairhill

Redburn M.

Groverake M

Heights Ms

Heights Qs

Highfield M

St Johns Chapel

Sharnkerry M

Stanhopeburn M

Stotfield Burn M

Teesdale

Wellheads Hush

California M

Westernhope M's

Pike Law

Manorgill M

Wiregill M

Sedling M (Venn)

Century

Grass Hill M's

Yew Tree M

Burne M

Burtree Pasture M

Castle side Mill (slag)

Rookhopehead M.

Dry pry V.

Middlegrove V.

Greenlaw M.

Killhope M

Chabazite

Dur

(In Whim Sill)

Cammock Eals L.

Copt Hill Q

Force Garth Q

Chalcanthite

Dur

groverite M

Chalcedonic silica

Dur

Allergill M

Bands M

Birch V

Boltsburn M

Dryburn V Ms

Groverake M

Harnisha Burn M

Hart hope V's

Newlandside ♀

Sikehead M

Stanhopeburn M

Whiteheaps M

Yew Tree M

Chalcocite

Dur

Raisby Q. (? error for dyscrasite)

Chalcopyrite

Blackdene M

Boltsburn M

Burnhope V's

Cornish Hush

Groverake M

Ineshopeburn M

Killhope M

Merkill V

New Brancepeth Coll'y

California M.

Dur

Raisby Hill Q

Sedling V

Slitt M

Stanhopeburn M (?)

Statfield Burn M

Westernhope Ms

Wolfclough M

Whiteheaps M

Cammock Eals L

Lady's Rake

Cup

Greenhuth M.

Chilton Q

Manorgill M

High Sedling M

Westernhope Ms

Chenite

Duv

Castleside Mill (slag)

Chlorite

Dur.

Ladi's Rake
Cadger Well Level

Chrysocolla"

Dur

Westernhope M's

Connellite

Dur

Castle side mill [slag] (?)

Copiapite

Dur.

Ushaw Moor Coll'y (?)

Hawthorne Dene Cin decomp colliery Fe waste
(?)

Copper, Native or metal

Dur.

Raisby Hill Q

Groverake M

Castleside mill [slag]

Westernhope Ms

Coronadite

Dur.

Sedling V (M)

High Sedling mine.

Covelline

Dur.

Dry pny V.

Seedling M.

Healey field M

Cuprite

Dur

Rainby

Castleside mill [slag]

Westernhope M's

Hawthorn [slag]

Cuprostibite

Dur

Castleside mill (slag)

Dovelline

Dur

Castleside Mill (slag)

Dickite

Dur

Chilton Q

Djurleite

Dur.

Räisby Q.

Dolomite

Dun

Building Hill Q's

Carricks M

Marsdon Hill

Raisby Hill Q

Dundasite

Dur.

Killhope M.

Elyte

Dur

Castleside Mill (slag)

Epsomite

Dur

Ushaw Moor Coll'y
New Brancepeth Coll'y.
Hetton Coll'y
Hesleden Dene

Ettringite

Dur

Castleside Mill (?) (slag)
Hawthorn Dene (slag) -

Ferricopiapite

Dur.

Groverake M.

Ferrhydrite
Hawthorne (? in situ)

Duo

Fluente (I)

Allerclough M
Allergill M
Ashgillhead M
Bards M
Billing Hills M
Birch V
Blackdene M
Bollihope Freehold XV
Boltokurn M
Boltsburn W L

Dur

Boltshead
Bow Lees Q
Brandon Walls M
Breckonsike M
Burnhope V's
Burtree Pasture M
California M
Cammock Eals L
Carricks M
Castenhole V
Chilton Q

F
Coldberry M Midd-in-Tees dale
Coldberry Vs Forest & Firth
Coxt cleugh M
Coves M
Cowhorse M
Crawley opencut
Dryburn V Ms
Elmford M
Flake Brig M
Fluskiemere M
Fullwood M
Grass Hill Ms

Greenfield V
Green Lawes M
Greenwells L
Grindstone Cleugh
Groverake M
groverake W M
Harehope Gill M (Frosterley)
Harnthwaite Burn M
Harthope Vs
Hartlepool
Hawksike Nush
Height Ms

Fluorite (II)

Dur

Heights Qs
 High Sedling M
 High Skears M
 Hope L
 Hunsanworth Ms
 Ireshopeburn M
 Jeffreys M
 Killhope M
 Langdon M
 Langdon Head Ms

Langtae Head M
 Levelgate L
 Lodge Gill M
 Lodge Sike M (Middleton)
 Lodge Sike M (Stanhope)
 Low Skears M
 Manorgill M
 Marlbeck M
 Middlehope M
 Newlandside Q

Old Fall M.
Pike Law
Pikestone M
Puddingthorn V
Ramshaw M
Redburn M
Red Grooves M
Rigg Ms
Russey M
Rogerwell Hush
Rookhopehead M

St Johns Chapel
Sandyford M
Scrath Head M
Sedgefield
Sedling V
Sharnberry M
Sikehead M
Slitt M
Slitt Pasture M
Snaisgill M
South Langtae Head V
Stanhopeburn M

Fluorite (III)

Dur

Stotfield Burn M
 Sunnyside M
 Swinkhopehead M
 Tailrace L.
 Thorny Brow M
 Trough M
 Wearhead V
 Wellheads Hush
 Westernhope Ms
 West Rigg M
 Whitefield Brow

Whiteheaps M
 Wiregill M
 Wolfcleugh M
 Yearnclough Vs
 Yew Tree M
 Derwent Pb M's
 Rogerley Q
 West Pasture M
 Eastgate Q
 Old Moss V.

Newton Nycliffe

Raisby

Queen'sberry M

Holywell M

Middlegrove V.

White's Level

(Middlehope Shield M.
Age 19th cent green)

Galena, "Lead ore" (I)

Dur.

Allerclough M
Allergill M
Ashgillhead M
Billing Hills M
Bishopby Wood M (?)
Blackdene M
Blackhall Rocks
Boldon Coll.
Boltsburn M
Boltsburn WL

Boltshead
Brandon Walls M
Breckonsite M
Broadsike L's
Burnhope M
Burnhope V's
Burtree Pasture M
Cadger Well L
California M
Canada Sh

Galena

Captain's Cleugh M
Carricks M
Castenhole V
Chilton Q
Clints L
Coldberry M Middle-in-Tees
Coldberry Vs Foreste Futh
Cornish Wush
Coves M
Cowgreen M
Cowhorse M
Crawley open cut

Dryburn V Ms
Drypy V
Dubbysike M
East Rake M
Elmford M
Flake Brig M
Fluskiere M
Fullwood M
Grass Hill Ms
Gravelheads Green
Greenfield V

Galena, "Lead ore" (II)

Dur

Greenhuth M

Green Laws M

Greenwell's L

Grindstone Cleugh

Groverake M

Groverake W. M.

Guinea Grocove M

Hanging Wells M

Harehope Gill M (Frosterley)

Harehope Gill M (Muggleswick)

Hargill Beck

Harnisha Burn M

Harthope Vs

Hawksike Hush

Healeyfield M

Heights Ms

Heights Qls

Highfield M

High Force Q

High Huth V

High Sedling M
 High Skears M
 Hilda Pit
 Holywell M
 Hope L
 Hudeshope L
 Hunstanworth Ms
 Ireshopeburn M
 Jarrow Coll
 Jeffreys M
 Killhope M

Lady's Rake
 Langdon M
 Langdon Head Ms
 Langtae Head M
 Levelgate L
 Lodge Gill M
 Lodge Sike M (Middleton)
 Lodge Sike M (Stanhope)
 Low Skears M
 Manorgill M
 Marbeck M
 Middlehope M

Galena, "Lead ore" (III)

Dur

Monkwearmouth Coll.	* Breckonsike M
Morrison N Pit	Ramshaw M
New Brancepeth Coll	Reddycumb M
Kewlandside Q	Red Grooves M
Northgate L	Red Vein L
(K) Nookton Burn	Rigg Ms
Old Fall M	Rispey M
Pike Law	Lookhopehead M
Pike stone M	Rowantree M
Puddingthorn V	Ryhope Coll.

Sandysford M
 Scraith Head M
 Sedgfield
 Sedling V
 Sharnberry M
 Sikehead M
 Silverdikes L
 Slitt M
 Slitt Pasture M
 Slitt W Level
 Smiths Hush
 Snaisgill M

South Langtæ Head V
 Stanhoseburn M
 Stotfield Burn M
 Sunnyside M
 Swandale M
 Swinhopehead M
 Tailrace L
 Thorny Brow M
 Trough M
 Ushaw Moor Coll.
 Wager Burn M

Galena, "Lead ore" (IV)

Dur

Wearhead V
Wearmouth Coll.
Wellheads Hush
West Binks Edge V
Westernhope Ms
West Rigg M
Whiteheaps M
Whites L
Whitfield brow

Willyhole M
Wiregill M.
Wolfcough M
Yearnclough Vs
Yew Tree M.
Derwent Pb Ms
Cammock Eals
Eastgate Q
Old Moss V

Pb (v)

Newton Aycliffe

Raisby

Prior's Close

"Wassinghope M" (Pb)

Middlegrove V.

Force Garth (= Middleton) Q.

Garnet

Dur

See Ugrandite, Hydrogrossular

Gersdorffite

Durr.

Lady's Rake

Goethite (I)

Dev.

West Rigg M

Greenhatch M

Coldberry M's, M-in-Tread.

Pike Law

Manorgill M

Westernhope M's ("limonite")

Sedling M, V ("yellow ochre")

High Sedling M ("yellow ochre")

Heights Q

West Binks Edge V

Mill L. ("limonite")

Coldberry V's

Langdon M

Goethite

"Limonite"

See also "Ironstone" (II) goethite.

Dur

Allergill M

Aukside V

Bands M

Boltsburn W.L

Broadsike L's

Burn Hill V

Carricks M

Castenhole V

Cornish Hush

Coves M

Cowhorse M

Drygill Sike

Ettersgill Ms

Flushiemere M

Fullwood M

Gravelheads Green

Greenfield V

Groverake W M

Harehope Gill M (Frosterley)

Harehope Q

Lim.

Nealeyfield M

Neights Ms

Heights Qs

Hell Clough Vs

High Hurth V

High Skears M

Holywell M

Killhope M

Lanchester

Langdon Head Ms

Levelgate L

Lodge Gill M

Lodge Sike M (Stanhope)

Low Fulwood M

Low Skears M

Marbeck M

Middlehope M

Queensberry M

Raisby Hill Q

Rigg Ms

Rispey M

St Johns Chapel

Scrath Head M

"Goethite
Limonite (III)

Dur

Sidehead Q
Slitt Pasture M
Snodberry V
Stanhopeburn M
Tailrace L
Trough M
Wager Burn M
Wearhead V
Wellheads Hush

Westernhope Ms
West Rigg M
Whitfield Brow
Slitt V
Boltsburn M
Middlegrove V

Goslarite

Dur.

Ushaw Moor Coll.

Graphite

Dur.

Castleside Mill (slag) (?)

Greenockite

Dur.

Ashgillhead M (? amorph)

Reddycombe M

Willyhole M (+/or amorph)

Gypsum

Dur

Boltonburn M

Little Stainton

Whiteheaps M

Coxhoe

Green Lows M

Felling Colly

Castleside Mill (slag)

Haematite

Dur.

Slit W. level

Halotrichite

Dur

Hawthorn Dene ✓

Hemimorphite

Dur.

Pike Law

Ashgillhead M.

Grass Hill M's

Killhope M

Hexahydrate

Dur

Hawthorn Done ✓ (2. artefact)

Humite

Dur

Hawthorn (H-group?? in slag)

Hydrocerussite

Dev.

Castleside mill (?) [slag]

Hydrogrossular

Dur.

Cadger Well Lev

Hydrozincite

Dur.

Killhope M (?)

Coldberry M (M-in-Teesdale)

Wiregill M

Breckonsike M

California M (?)

Levaite

Dur

Force garth Q.

"Ironstone" Fe mins (unspecified) Dur.
See also specific Fe mins eg siderite; "limonite"

Billing Hills M

Boleburn W L

Canada Sh.

Captain's Clough M

Dryburn V Ms

Elmford M

Gronerake M

Hanging Wells M

Harnisha Burn M

Heights Ms

Highfield M

Killhope M

Newlandside Q

Northgate L

Old Fall M

Pikestone M

Red Vein L

Rigg Ms

Rockhopehead M

Fe

Rowan tree M

Slit W. Level

Snodberry V

Sunnyside M

Thorny Brow M

Whites L

Whitfield Brow

Jarosite

Dur

Groverlake M (?)

Yew Tree M

California M (?)

Westernhope Ms

Lanarkite

Deer

Castleside Mill (slag)

Langite

Deer

Castleside mill (?) [slag]

Lautenthalite

Dur

Castleside Mill (?) (slag) [vis ID]

Lead metal

Dur

Castleside mill [slag]

Leadhillite

Dur.

Middlegrove V.

Castleside Mill (?) (slag)

Killhope M

Westernhope Ms (?)

"Limonite"

see Goethite

Dur

See Goethite

Linarite

Dur.

Manorgill M

Wiregill M

Westonhope Mls

Dry pry V.

Healeyfield M.

Castle Side Mill [slag]

California M

Magnetite

Dur

Cadger Well Lev.
Lady's Rake.

Malachite

Dur

Birch V

Raisby Hill Q

Stotfield Burn M (?)

Whitfield Brow

Westernhope M's

Castleside Mill [slag]

Yew Tree M

California M (?)

Manganese minerals, unspecified Dur

Downhill Q ("soft black Mn oxide; ? pyrolusite)

Marcasite

Cammock Eals L ~~(B)~~
Harehope Gill M (Frosterley)
Harthopeburn V
Levelgate L
St John's Chapel
Seedling V
Sikehead M
Slitt M
Stanhopeburn M (?)

Dur

Whiteheaps M
Wolfcleugh M
Coldberry M, M-in-Teesd.
High Seedling M
Prior's Close

Melanterite

Dur.

Ushaw Moor Coll'y
New Brancepeth Coll'y
Hetton Coll'y

Melilite

Dur.

Hawthorn (m-group? In slag)

Millente

Dur.

Boltsburn M [?]

(Poss. grove area?)

Blackhall Coll'y.

Boldon Coll'y

Cowgreen M

Greens Farm

Coldberry M, M-in-Teesdale

Wiregill M.

Mimetite

Dur.

Grass Hill Ms (? - prob. pyrom.)

Teesdale (? - prob. pyrom.)

Minimum

Dur

Grass Hill Ms

St Johns chapel

Castleside mill(??) [slag]

Molybdenite

Dir.

Rockhope borehole

Natrojarosite

Dur

Hawthorn Dene (?)

Niccolite, nickelite

Durham.

Co Durham (?Weardale)

Lady's Rake

Olivine

Dur

Teesdale

Pectolite
(In Whim Sill)

Dur.

High Force Q

Cammock Eals L

Copt Hill Q

Force Garth Q

Wearhead

Burtree Ford.

Prehnite

Dur.

Force girth Q.

"Psilomelane"
See Romanechite

Dur

Pyrite

Boltonburn M

Cammock Eals L (H)

Cornish Hush

Esh Coll

Ettersgill Ms

Greenhenth M

Greenhaws M

Killhope M

Little Stainton

Lodge Sike M (Middletown)

Dur

Lumley 6th Pit

Manorgill M

Morrison N Pit

Sedgefield

Stanhopeburn M(?)

Stotfield Burn M

Wearmouth Coll

Wolfclough M

Sliff W. Level

Lady's Rake

Py

New Brancepeth Coll'y.

Hawthorn Dene

Pyrolusite

Dur

Downhill Q ("soft black Mn oxide; ?pyrolus)

Pyromorphite

Dun

Joass Hill Ms

Highfield M

Teesdale

Whitfield Brow

Pikestone M

Healeyfield M

"Pyroxenes", unspec.
See also Augite

Dur

Teesdale

High Force Q

Force garth Q ("Ortho-")

Pyrrhotite

Dur.

Lady's Lake
Cammock Eals Level

Quartz (I)

Dur

Allergill M
Ashgillhead M
Billing Hills M
Birch V
Bishopley Wood M
Blackden M
Black Hill Top
Bollinhope Freehold XV
Boltburn M
Boltburn W.L.

Brandon Walls M
Burtree Pasture M
California M
Carricks M
Catherick M
Cornish Hush
Coves M
Cowgreen M
Cowhorse M
Dryburn V Ms
Drypy V

Q

Elmford M
 Ethersgill Ms
 Fullwood M
 Gravelheads Green
 Greenfield V
 Greenhulth M
 Green Lows M
 Grindstone Cleugh
 Groverake M
 Harehope Gill M (Frosterby)
 Harnisha Burn M

Harthopeburn V
 Healeyfield M
 Heights Ms
 Heights Qs
 High Skears M
 Hope L
 Jeffreys M
 Killhope M
 Langtae Head M
 Levelgate L
 Lodge Gill M
 Lodge Side M (Middleton)

Quartz (II)

Low Skears M

Manorgill M

Marbeck M

Middlehope M

Old Fall M

Pike Law

* Breckonsike M

Ramshaw M

Reddycomb M

Red Grooves M

Dur
West Pasture M
Rigg Ms
Rogerwell Hush
Rookhopehead M
St. Johns Chapel
Scrath Head M
Seedling V
Sharnberry M
Sikehead M
Slitt M
South Langtore Head V
Stanhopeburn M

Q(II) Middlegrove V
Stotfield Burn M
Sunnyside M
Swinhopehead M(?)
Thorny Brow M
Wearhead V
Westernhope Ms
West Rigg M
Whiteheaps M
Whitfield Brow
Wiregill M
Wolfclough M
California M

Force Garth Q
Yearnclough Vs
Derwent Pb Ms
Slitt W Level
Cannocks Eals L
Rogerley Q
Cudger Well Lev
Lady's Lake
Eastgate Q
Coldberry M Min-Teesd.
High Sedling M.
Yew Tree M.

Romanechite, "psilomelane" Dur

Rosante

Dur

West Pasture M.

Serpierite

Dur.

~~Calxoside mill (slag) (?)~~

Sidente

See also "Ironstone"

Boltsburn M

Boltsburn W L

Brandon Walls M

Broadsike L's

Burnhope M

Burnhope V's

Burtree Pasture M

Carricks M

Clinto L

Coves M

Dur

Cowgreen M

Ettersgill Ms

Fullwood M

Green Lavs M

Hawksike Hush

Healeyfield M (?)

Hope - L

Ireshopeburn M

Killhope M

Lady's Rake

Lodge gill M

Sidebank

Lodge Sike M (Stanhope)

Low Skeats M

Middlehope M

* Breckonsike M

Red Grooves M

Rispey M

St Johns Chapel

Sandyford M

Scrath Head M

Sedling V

Slitt M

Stanhopeburn M (?)

Swandale M

Tailrace L

Thorny Brow M

Wearhead V

Wellheads Hush

Wolfcleygh M

Old Moss V

West Rigg M (?)

Howthorpe Dene (?)

Sideronathite

Dur.

Hawthorn Dene ✓

Silver, native

Durham

Redburn M

Smectite

Dur

Lady's Rake

Smithsonite

Deer

Reddycomb M

Greenhuth M

Ashgillhead M

Willyhole M.

Kilthope M

Sphalerite, "Zinc-ore" (I)

Deer.

Ashgillhead M
Blackdene M
Bollitope Freehold XV
Boltonburn M
Boltonhead
Broadside L's
Burnhope M
Burnhope V's
Burntree Pasture M
Chilton Q

High Sedling M.
Coldberry V's, Forest
Cowgreen M
Ettersgill M's
Greenhenth M
Green Lows M
Groverake M
Jeffreys M
Killhope M
Lady's Rake
Lodge Side M (Middleton)

2n Coxhoe
Manorgill M
New Brancepeth Coll.

(K) Nookton Burn
* Breckonsike M
Ramshaw M
Reddycomb M
Rookhopehead M
Sandyford M
Sedgefield
Sedling V
Sikehead M

Old Moss V
Slitt M
Coldberry M, M-in-Teast
Stanhopeburn M
Stotfield Burn M
Swandale M
Thorny Brow M
Wearmouth Coll
Wellheads Hush
Whiteheaps M
Whitfield Brow
Willyhole M
Trough M
Cammock Eals L

Sphalerite, "Zinc ore" (II)

Dur

Prior's Cove
California M.

Spinel

Dur

Hawthorn (A spinel, in slag)

Stilbite

Dur

High Force Q

Strontianite

Dur

Green Lawo M

Sulphur, native

Dur.

(Cuckfield Fell (?))

Harehope Gill M (Frosterley)

Drypy V.

Yew Tree M

Killhope M

Hawthorn (In slag)

Synchysite

Dur

Groverake M.

Talc

Dur.

Lady's Lake

Thaumasite

Dur

Sedling M, V.

High Sedling M

Ugrandite

Dur

Cadger Well Lev

Lady's Rake

Ullmanite

Dur.

New Brancepeth Coll.

Lady's Rake

Greenhuth M

Valentinite

Dur

Castleside mill (slag) (?)

Vivianite

Dur.

Hart hope Ganister Qs.

Swallowell

Castleside mill (slag)

Witherite

Brandon Coll.

Coldberry Vs

Cowgreen M

Craghead Coll.

Esh Coll.

Flushtiemere M

Lumley 6th Pit(?)

Morrisson N Pit

New Brancepeth Coll.

Dur

Tanfield Moor Coll.

Ushaw Moor Coll.

Waterhouses Coal M.

Greenhuth M

Dubbysike M

South Moor Coll.

Wroewolfeite

Jur

Castleside mill (slag)

Zlatogorite

Dur

Castleside mill (near) (slag)

Unident

Dur

Castleside mill; Vivianite-like; hex
rosettes; metallic clino-blades;
d'less adamantine luster - looks like
valentinite. Blades w good cleav &
intense red - d'less pleochro ("?minium")
Pale yellow blades with "valentinite-like".
Pale green gypsum-like (1 xl!) cf 83-87
from Glengaber mill, Warlockhead
Orth $\text{Cu}_2(\text{Sn}, \text{Sb})$; $\text{Sb}_3(\text{Sn}, \text{Pb})_2$;
 $(\text{Cu}, \text{Ni})\text{Sb}$ (zetgorite?) - $(\text{Ni}, \text{Cu})\text{Sb}$.

THE NORTHERN PENNINE OREFIELD

An introduction

The Northern Pennine Orefield comprises a sequence of Carboniferous sediments folded gently into a half-dome structure bounded on the north by the Stubbs Fault System along the Tyne Valley, on the west by the Pennine Fault System along the escarpment and on the south by the Stainmore Syncline. The beds dip eastwards beneath the Westphalian Coal Measures and younger rocks of the Durham coast plain.

The Carboniferous sequence of the Northern Pennines may be divided into two broad divisions. The Alston Group of Viséan age is composed mainly of shales and sandstones with several limestones and a few thin coals and is overlain by the "Millstone Grit" of Namurian age composed mainly of shales, sandstones, some coals and a few limestones, the most notable of which is the Great Limestone at the base of the division. The Carboniferous rocks rest on a relatively shallow basement of Lower Palaeozoic rocks which may be compared with the rocks of the Lake District. These are known from deep boreholes and from outcrops along the Pennine escarpment and in Teesdale.

The mineral deposits of the area occur within the Carboniferous sediments as vein and replacement deposits (Dunham 1948). A very well-marked zonal arrangement of the constituent minerals is present with a central zone dominated by fluorite and an outer zone in which barium minerals are characteristic. Only in a few localities do fluorite and barium minerals occur together. This zonal pattern of minerals closely parallels gravity values and volatile contents of coals within the area and led to the suggestion that it reflected a temperature zonation around a granitic body at depth. This was tested by the drilling of the Rookhope Boreholes in 1960-61. Granite was reached at a depth of 390 m though it was found to have a weathered top and therefore pre-dates the Carboniferous sediments. Clearly the mineralisation could not have developed as a result of the intrusion of the granite into the Carboniferous rocks. However the granite is considered to have provided a channel up which mineralising fluids migrated and also provided a heat source driving the mineralising system as well as accounting for the devolatilisation of the coal seams.

The Northern Pennines provides one of the world's finest examples of a zoned orefield with numerous vein and replacement deposits of "Mississippi Valley" type. There is a close relationship between wall-rock geology and deep structure and the form and mineral content of individual deposits.

The area has had a long history as a producer of lead and zinc ores (eg Raistrick & Jennings, 1965) as well as barium minerals and fluorspar. This latter mineral is the area's main product today together with smaller amounts of barytes: lead and zinc ores are now merely by-products. The Northern Pennines played an important part in the history of lead mining and smelting technology and the area abounds in remains of industrial archaeological interest.

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1" 84

NY 873 394

Stanhope

ALLERCLEUGH MINE, St John's Chapel, Durham

KCD(1948), 226. F, Pb. On Blackdene
vein - fluorite. Worked "recently" on
incline driven 540' on vein in 1936-1939.

1184

NY 96537₃ALLER GILL MINE, Stanhope, DurhamKCD (1948), 257. F, Pb. Vein from 1,800' E of

Snowhope close to 2000' NE of Snake gate. Open cut
e shallow shaft, drained by a water level
from ~~Horsely~~ Horsley Burn. galea, coarse
purple fluorite, quartz, chalcedony,
limonite.

1"84

NY ? 808 355

ASHGILL HEAD MINE, Forest e Frith, Durham.

KCD (1948) 287. Pb Strong E-W vein on watershed Burnhope/Harwood. On Teesdale side known as Ashgillhead vein. Main entrance was Ashgillhead level, at ca 1800'OD straight X-cut driven N12°W. Vein at 3400' from portal. galena, quartz, purple and amber fluorite, some zinc [sphalerite]

p88. greenockite incrustations on sphalerite (the only occurrence in the area) V. infra

p288 Ashgillhead level must have passed through S. Langtae Head vein,

but no record of this

B. Young (1987) PYGS 46 275-8. Amorphous
CdS on sphalesite altering to
smithsonite & containing 713-1064 ppm
Cd

T Bridges & B Young (1998) JRS. The greenockite;
hemimorphite

1"84

NY

94₄

266

AUKSIDE VEIN, Middleton-in-Teesdale, Durham

KCD (1948) 306: A NE fault in How gill, 1 ml
N of Middleton-in-T. Levels to test it
showed only limonite.

¹¹⁸⁴
BANDS MINE, Forest & Frith, Durham ^{cc} 830332-3

KCD(1948), 291. Ba, Fe. On E side of road,
2ml NW of Langdon Beck Hotel. Limonite, baryte
with minor fluorite in flats; chalcedony.

BARBARY MINE, ~~See~~ Stanhope, Durham.

See IRESHOPEBURN MINE

KCD N-F (1959) 134. Being worked. Fluorite; galena.

KCD (1948), 68, 97, 227-8 (Fe, F, Pb) 97: Chalcopyrite.

NZ 54 22

BILLINGHAM, Durham.

Rayness Cat (1960)

Anhydrite.

ICI run anhydrite mine here

1"84

NY 95 380

BILLING HILLS MINE, Stanhope, Durham,

KCD (1948), 256. F, Fe, Qtz, Pb. On Slitt^(530')
Vein, S of the wear. Vein very wide, but
mostly quartz (massive) with fluorite lenses
Opencasts, also levels, worked 1918-1931
Some cross-veins.

1"84

NZ 01 36

BIRCH VEIN, Stanhope, Durham.

See also DRYBURN V.

KCD (1948), 260 Marked by line of old shaft
NE from Hill End. Dumps have quartz,
chalcedony, fluorite, & a little malachite

1" 84

NZ 023 355

BISHOPLEY WOOD MINE, Stanhope, Durham

KCD (1948), 256. Qtz, ?galena. In Bishopley
Wood, 2200' SW of White Kirkley Bridge

1" 84

868 390

Stanhope

BLACKDENE MINE, St John's Chapel, Durham.

See also ALLERCLEUGH M, ELMFORD M, SEDLING M.

KCD NF (1959) 134. Has been reopened for fluor spar.
galena also present.RSWB et al (16/8/62) II, 113. Working. Fluorite, xls rare
on dumps; calcite, quartz, galena, traces
blende; chalcopryiteGR 8/65 New adit recently driven.KCD (1948) (F, Pb) 4, 28, 36, 226, 252 In 1401 a
lease named "Blackden mine". N of the

Wear the main level enters the vein as an oblique
x-cut & is driven 3850' on Blackdene vein. Numerous
rises above this level & considerably
stoped. A rise connects with ELMFORD wagon
level at 1270' OD. At 1950' from where Blackdene
level turns on the vein, a NW x-cut (Ridley's)
cuts Slitt V & communicates with New Sedling
Level. There are 4 sumps below Blackdene
level. The vein, 3'-14' wide is mostly
fluorite, & also worked in ALLERCLEUGH &
ELMFORD MINES

1" 85

NZ 46 40 NZ ~~4979~~ 4104

BLACKHALL COLLIERY, Monk Hesteden, Dur.

B. Young et al Min Mag (1985) 49 555

In 1981 DB Smith found millerite
in an underground borehole at
Blackhall Colliery NZ 4979 4104 [under
the sea, if correct]

1" 85

NZ 4739

BLACKHALL ROCKS, Monk Hesteden, Durham

KCD (1948) 331. Near Blackhall Rocks
galena has been found in Upper Magnesian
limestone, and an adit is said to have
been driven into the cliffs. (C.T. Trechmann,
Priv. Comm.).

OS. Gazette: Black Halls Rocks, NZ 4739
1" OS 85 Blackhalls Rocks, on coast H.

1"84

NZ 10 31

BLACK HILL TOP, Bedburn, Durham.

KCD(1948) 264 A NNW baryte vein between
Black Hill Top & White Hill Top farms.
1 mi W of Hamsterley. The Helt
quartz-dolomite dyke outcrops a
little to the S.

BLEAKLAWS CROSS VEIN, Stanhope, Durham

See LEVELGATE LEVEL

BLUE CIRCLE Q, Stanhope, Dur.

See EASTGATE Q.

1"78

NZ 36234 60484

BOLDON COLLIERY, Boldon, Co Durham

See also DOWNHILL Q'y.

Dearman WR & Jones JM (1967) Trans. Nat. Hist.
soc. Northumb. 16, 193-6.

Millerite ~~in borehole~~

KCD (1948) 331 galena (J.A. ~~Smythe~~ Smythe,
(low in Ag) 1923?)

1"84

NY 997 348

BOLLIHOPE FREEHOLD CROSS VEIN, Stanhope, Dur.

KCD (1948) 260 A level starting 4000' ESE
of the xing of the Stanhope-Middleton road
over Bollihope Burn [i.e. near NY 997 348]
reaches this vein at 300' SW. Large
sandstone dumps, with limestone, have
quartz, calcite, fluorite, & sphalerite

BOLLIHOPE SHIELD LEAD MINES, Stanhope, Durham

See HARNISHA BURN MINE

BOLTSBURN MINE, Rookhope, Durham. (I)

See also BOLTSBURN W. LEVEL.

Hitchen, MM 22 xxxviii (Jan. 1929) ^[Exhibit]. A Nice crystallisation sequence.
Galena; chalybite; purple fluorite; quartz; green fluorite; calcite.

Various Museums: giant fluorite cubes. Calcite. Quartz
 BM spec. Millerite. [Dearman, WR & Jones JM (1967) Trans. Nat. Hist. Soc. Northumb. 16 193-6] ²³²

KCD (1948) (F, Pb) 28, 81⁸³, 87, 90, 97, 99, 101, 102, 115, 228, 246.
 90: Spectros. exam of axl of pure purple fluorite from
 Boltsburn Mine East (JA C McClelland, G.S. No 1419, 1944)
 showed 0.2% Y, trace Eu. No Be, Ce, Th. Trace $\rightarrow$ 0.05% Na
 97: galena. 101: F, Pb fluids broke through

The ankeritised belt of the Limestone $\therefore$ of structural considerations & deposited in the limestone beyond the replacement flats produced contain bands of galena, also scattered cubes in a matrix of fluorite, quartz, chalcedony, ankerite & siderite. Siderite > ankerite in the productive part of the flat.

p115 Gypsum efflorescences.

p228 NE of Lookhope Burn, very rich lead mine.

Vein initially worked - not outstandingly rich - then at end of 19th Cent the great belt of flats discovered which kept mine going until 1932. These extend over 2 miles to NE but as strata dip N, got deeper

BOLTSBURN MINE, Rookhope, Durham (II)

& deeper and had to be reached by a succession of underground shafts & levels, so ore transport became more difficult & expensive & eventually uneconomical though ore still present in NE foreheads.

The Horse or East Level starts near the mine offices at 1058' OD & goes 5800' NE. The main working level, though, Watts Level, was driven from Boltsburn Engine Shaft of the SW side of Rookhope Burn, starting 179' below

The shaft collar at 908'OD & goes 10,950' NE
 From this, 4 up shaft sunk, giving access
 to successively deeper levels. Redway Rise
 used for ventilation, which connects with
 Redway Level (at 1376'OD) & Hopeburn Shaft to
 surface 8000' NE of B. Engine Sh. on SE side of
 Stanhope Burn valley. The great flats start
 near Redway Rise & go to the mine
 foreheads 7,700 ft to NE. Vein poor after
 flats reached. The 3 flat horizons within
 the gt. Limest. all mineralised but the High
 Flat was the richest.

Although the
 replacements were

	10'	High Flat	
	11'	Barren	
	7'	Middle	
	11½'	Barren	
	5'	Low	

BOLTSBURN MINE, Rookhope, Durham (III)

normally confined to the Flat horizons,
sometimes were continuous between them.

Galena - coarse bands & xls dissem in the
altered l'st. Cavities remarkable for
the beauty of the purple fluorite xls
up to 6" along cuke-edge. Siderite-
pale brown curved xls; ankerite, white or
yellowish rhombs (formerly incor. ident.
as "dolomite"), quartz, "nail-head" calcite,
sphalerite, pyrite, v. rarely chalcopyrite.
p. 232 PLAN & SECTION.

T Bridges & B Young (1998) JRS. sec'y gypsum
in "limonite" near oxid'g pyrite. (KCD, 1990)

1"84

NY

937 427

BOLTSBURN OLD MINE, Stanhope, Durham.

See BOLTSBURN W. LEVEL; BOLTSBURN MINE

1st 84

NY 93, 42,

BOLTSBURN WEST LEVEL, Stanhope, Dur.

See also BOLTSBURN MINE, etc.

KCD (1948), 227-8-9 246, 109. Pb/Fe. Fulwood

Vein cut by Fulwood X-cut, has fluorite,
siderite & small amt. galena.

[Boltsburn Old W. Level] on Red V. starts from
Rookhope Burn adjacent to confluence with
Bolts Burn, @ 1053 ft OD Intersects Boltsburn
Fulwood, Mary's Veins. Ironstone flats adjacent
to intersections of Red V with Bolts b. & Ful. V's.
p29: [Boltsburn W Level] starts from SE bank of Rookhope

Burn, on Boltsburn Vein, at 1090' OD. At 170' from portal, Red Vein cuts through, accompanied by large ironstone flats. B. Vein poor for the next 2000' SE, then extensive ironstone flats. At 3500' Stony Hill Shaft from surface. Which also connects to X-cut to Fulwood mine. 400' SW of the Shaft a branch along a x-vein to Fulwood vein system. 900' SW of the Sh, the flats cease, vein continuing with siderite, fluorite, quartz, galena.

5109 B. Vein driven through a belt of flats extensively worked for limonitic Fe ore, i.e. oxidised. At 300' below surface cores of siderite & ankerite appear in the limonite. Below 325' oxidation dies out. Fresh galena, siderite & ankerite with fluorite filling the vein and small flats.

1" 84

NY 95 45

BOLTSHEAD, Hunstanworth, Durham

KCD (1948) 272 During 1925-32 Hunstanworth
Mines Ltd explored ground SE of the
head of Bolts Burn - 2 levels to Florence
Vein, explored in the 400' between the
levels, width 1' 10" $\rightarrow$ 4', of fluorite, with
spots of galena with sphalerite.

BOLTSHEAD or BOLTSHAW V. is a small
ENE vein said to have been found
on digging foundations for Bolts Shaws

cottage. Tested undergd by W branch
of Skottowe's adit from Whiteheaps mine [qv]
which reached it 1200' SSE of portal. No
inform. on contents.

BOWLEES FARM, Wolsingham, Durham.
of BOWLEES QU., Middleton-in-Teesdale

KCD(1948) 263. $1\frac{1}{2}$ ml E of Wolsingham. A small
vein here of pink baryte with epimorphs
after quartz, in open cut

1" 84

NY 91 28

BOWLEES QUARRY, Middleton-in-Teesdale, Durham
cf BOWLEES FM., Wolsingham

Quarries (1963-4). Baryte & fluorite quoted
1" OS 84 shows "Bowlees" at 91 28

BOWMAN'S VEIN, Stanhope, Durham

See WELLHEADS HUSH

1"

NZ 244 397

BRANDON COLLIERY

Durham

KCD (1948), 340. Witherite in a vein
2-3' wide on the S wall of a dyke
cut by the Busty Engine Plane from "B" Pit.
Not worked.

B. Young (1985) PYGS 45 199-206. Major
witherite

1" 84

NY 948 412

BRANDON WALLS MINE, Stanhope, Durham
See also THORNY BROW M.

KCD (1948), 241. Pb, Fe Shaft E of Rookhope
Buron on Heights N vein = Brandon Walls vein.
Vein has galena in fluorite, siderite, qtz

1" 84

NY 860 420

BRECKONSIKE MINE, Cowshill, Stanhope, Durham.

See also QUEENSBERRY MINE, BURTREE PASTURE MINE
GROVE RARE

KCD (1948), 219. F, Pb. Level driven NW
 from Sedling Burn, reaches Breckonsike Vein
 1050' from portal, & continues 1750' NE on Vein.

Fluorspar.

OS 2½" NY 84 shows "Brackensike Vein" near 860 420

OS 6" Dur. 16 shows "Breckensike Level" near 891 436

on Brecken Sike, above Grove Rake mine,
 Rookhope. [The other side of Middlehope Moor!]

T Bridges & B Young (1998) JRS. At NY 8604 4184.

Parts of dump immed. adjacent to mine entrance
cemented into a breccia by crusts of
hydrozincite appar. being depos. by Zn-rich
mine water.

NY 84 36
Stanhope

BROADSIKE LEVELS, St. John's Chapel, A Dur

KCD (1948), 234. Pb Lie nearly $\frac{1}{2}$ ml SW
of Hemstley's Level (LODGE SIKE M., q.v.), on W bank
of Ireshope Burn. One L. on vein beneath
the Gt L'st, other in shale above Gt. L'st.
Vein 6-9" thick, had small workable flats
2 $\frac{1}{2}$ ft. thick. ~~no~~ Limonite, siderite, galena,
e a little sphalerite on dumps

1" 78

NZ 3 5

BUILDING HILL QUARRIES, Sunderland, Dur.

GeL (1858) Nr. Sunderland. Dolomite, opaque and
earthy, in globular & radiating concretions.

BURNE MINE, Durham.
cf. STANHOPEBURN M.

P Rashleigh (1797) Plate 30, Fig. 2. "white lead"
[cerussite], "straw-yellow prisms standing
parallel to each other" from "BURNE M.
Durham."

T Bridges & B Young (1998) JRS. Ref to above
— the mine might be STANHOPEBURN M.
[STOTSFIELD BURN & REDBURN M's are too new, HUGGILL BURN
M is in CRMB]

1" 84

NZ 073 440

BURN HILL VEIN, Buttsfield, Durham.

See also DRYPRY VEIN

KCD(1948) 263 Small N 30°W vein in
Millstone grit 4¼ ml N of Wolsingham,
1500' ESE of Burn Hill Farm, on both
sides of road. only minerals
barite & a little limonite

1" 84

NZ 00 48

BURNHOPE MINE, Edmondbyers, Durham.

See also SWANDALE MINE, HAREHOPE GILL M.
(cf BURNHOPE VEINS, Stanhope, Dur)

KCD (1948) 274 1000 ft to the NW of
Harehope Gill mine [qv]. Siderite,
with calcite, a little sphalerite &
galena

The heap of baryte near the burn
is said to have come from College
Edge & Swandale Head [qv]

1"84

NY ~~3/84~~ 80-84, 39BURNHOPE VEINS, Stanhope, Durham

(cf BURNHOPE MINE, Edmondbyers, Dur.).

See also SMITH'S HUSH; EM'S HUSH, LANGTAE HEAD M;
LODGE GILL M.

KCD(1948) 217 One vein crosses Burnhope Burn
near the foot of Whae Sike [OS map Whoe Sike]
[ie near 834 387]. During reservoir constr.
in 1931-3 adit on N side of valley examined
- 2' vein with purple & green fluorite,
galena, sphalerite, siderite, limonite
Similar mins. on dumps SW of burn.

2nd vein higher up valley, in MILBURN'S
HUSH in sandst., with galena, sphalente,
e. chalcopite [OS $2\frac{1}{2}$ " map: 823 386-827 387]

[ie near 812 394]

On N side of valley, POPPET LEVEL in
shale $\frac{1}{2}$ ml NNW of confluence of Sally Grain
~~823 386~~ e. Scraith Burn. goes 1825'. SALLY GRAIN
LEVEL 1800' NW of the confluence [ie near 812 391]
in shale @ 1641' OD ran NNW - NOT payable.

OS 6" map also shows GREEN SLIT [? a hush]
at 803 389

NY 85 40
J⁸⁴
BURTREE FORD, Stanhope, Dur.

At Wearhead - Cowshill.

W. Egglestone, Weardale Naturalists Field Club
Trans. Vol 1, [1], (1900), pp 125-126. "Pectolite,
a mineral new to Weardale." Coll from

Monkhouse & Peat's quarry [in Whin],
checked at Mus of Pract Geol, London.

Ref to in I. Bridges, RSN (2006) 48, p 6.

1" 84

Around NY 86, 418 → NE

BURTREE PASTURE MINE, Stanhope, Durham

See also BRECKONSIKE MINE, QUEENSBERRY MINE, COPTCLEUGH M.

KCD (1948), 220 - F. Pb: 17, 19, 42, 47, 65, 71, 78-9, 97, 118, ²¹⁹220.

On Breckonsike & Burtree Pasture Veins - the latter vein being Weardale's greatest Pb producer to date. Small flat in the SW part.

Purple fluorite, quartz, siderite, ankerite, calcite, galena, some sphalerite lower down, with fluorite. Section - p 221.

RSWB, 26/4/76. Being reopened by ICI ("Weardale

Lead Co.), from a level to $\approx N$ from near
412 860, (near Sedling mine).

T Bridges & B Young (1998) JRS. Beaut. "jackstraw"
cerussite xls in upper workings.

1" 84

NZ 082 323

CABIN HILL, Hamsterley Common, Durham.

KCD(1948) 264 Small baryte vein on Cabin
Hill E of the garnister quarries at
Doctors Gate, 1 ml W of Hoppyland Hall.
Also traces baryte S of the main
quarry.

1"84

NY ~~7978~~ 7978 3488

CADGER WELL LEVEL, Forest & Fifth, Durham
See also SOUTH LANGTAE HEAD VEIN.

KCD (1948), 288. Pb At head of Harwood
Beck. 600' NNW of portal a weak vein
proven probably ~~the~~ South Langtae Head
Vein (which carries purple fluorite
galena, quartz, & aragonite along "South
Langtae Sike")

B. Young, MT Styles & N. Berridge MM (1985) 49 555-9
Dumps from Cadger Well level NY 7978 3480
have some Ni-free magnetite rock also
yellowish garnet grains (gran. aggs & subhedral

xls $\rightarrow$ 0.5 mm) are ugrandite-type with some
hydrogrossular. Calcite; interstitial
chlorite, qtz dolomite.

1184

NY 995 306?
985 312CALIFORNIA MINE, Middleton-in-Teesdale, Dur.

See also WIREGILL M., FLAKE BRIG M.

KCD(1948), 309. Pb Main entrance is an adit in Little Egglehope at 1500' OD at head of valley, driven N by W in shale. Cuts Little Egglehope V. 600' from portal, where meets main engine sh., which goes through the adit 100' from surface, then through Wiregill Middle level (see WIREGILL M.), 120' below the adit. Purple & amber fluorite quartz; some baryte - only in the highest workings; galena.

The Times 10/70 "Star Aluminium" to spend £200 000
on a survey of California, Wiregill &
Whitfield Bros mines for 'viable' fluorite,
in partic. the Sharnberry vein.

A.P. Read ^{coll.} (1976) Cerussite xls w. galena, fluorite

RSN(1999)35, 17. Ore in sandstone. Fluorite common,
but weathered on dumps - collecting not
allowed by Raby Estates, also quartz
calcite, galena minor sphal, ch'pyr,
cerussite common - coarse weathered xls.
h'zinc? linar, minor, ?mal, "?-binderhemite
[?jarosite more likely]

1184

NY 935 384

CAMMOCK FALS LEVEL, Stanhope, Durham. (I)

See also HEIGHTS MINES

KCD N-F (1959) 133.

Reopened 1949 to work
Heights Mine (Slitt Vein) for fluorspar. Two
new blocks of fluorite being worked, one
under old Heights Opencut, ~~was~~ being stoped from
a drift 195 ft. above the adit; another further E.

RSWB et al, II, 114, (16/8/62). A little purple fluorite
on dumps, also a lot of pyrite/marcasite
- little else. Adit efficiently gated.
(double!).

KCD (1948) 255. "Cammock Eals mine" starts N of
The Wear near road. Horse level driven
6300' WNW on vein, & ventil. drift 60-80'
above, connected by rises every 400-600'
Sh. to surface at 2425' from portal, & rise
connection to Park Burn Level [See HEIGHTS MINES]
at 4350'. Aband. for Pb in 1871, but F started
1906 then subsequently, intermittently. Immed
below F workings on Park Burn Level.
The Horse level is 290' below Park Burn level.

RSWB 26/4/76 Working from an incline. Fluorite
purple → greyish → greenish, v. fluoresc. Some good
x/s; excellent calcite; quartz. galena. Pyr. Some
fluor. coated w. a v. white chalky clay mineral.
A little chalcopyr. marcasite

CAMMOCK EALS LEVEL, Stanhope, Dur (II)

CAMBOKEELS (CAMMOCK EALS) MINE, EASTGATE [NY 935 383]

B. Young (1988)

This mine is actively working fluorite from a section of the Slitt Vein east of the West Rigg workings. The earliest workings here date from last century, or perhaps before, when an adit was driven at about the horizon of the Scar Limestone in search of lead ore. Little payable lead was found and the mine was abandoned in 1871. Considerable widths of fluorite were noted however, and during the present century the mine has been worked at intervals for this mineral. The present operations date from the early 1970s. A characteristic feature of the 'quarterpoint' veins is that great widths of mineralisation occur where the vein direction most nearly approaches E-W. Cambokeels Mine exploits one such stretch. Workable fluorite mineralisation here has been found in several oreshoots ranging from the Scar Limestone down to the Whin Sill, and into the Jew Limestone beneath. In addition to fluorite, much of which is of a pale purple colour, the Cambokeels orebodies contain much white quartz, and with increasing depth considerable quantities of the iron sulphides marcasite, pyrite and pyrrhotite make their appearance, in places accompanied by reddish-brown sphalerite. The presence of these minerals with increasing depth both here and elsewhere in the orefield supports the belief that the fluorite-bearing veins pass downwards into a zone dominated by quartz and iron sulphides (Dunham et al. 1965). Good examples of all of the vein minerals may be found on the Cambokeels dumps. In addition well crystallised specimens of analcite encrusting Whin Sill dolerite have been found and have recently been traced to exposures underground where joints and fractures in the Sill are lined with abundant analcine accompanied by apophyllite, pectolite and rare chabazite.

Traces bismuthinite in quartz

1" 84

NZ 00 38?

CANADA SHAFT, Stanhope, Durham.

KCD(1948), ²⁵⁰~~21189~~. Pb, Fe. On Red Vein - ^{Near}₁E extremity
1200' SSE of E end of Rogerwell Hush(gd), W of
Shillehope Burn. 141½' deep. X cut driven
N to Rogerwell V. Iron ore.

1"84

NY 950 4095

CAPTAINS CLEUGH MINE, Stanhope, Dur.

KCD(1948), 242. Pb, Fe. Main level starts
from Brandon Cleugh, 500' SE of Brandon Walls
Farm. Iron ore worked in flats, also lead.
on Captains Cleugh Vein.

1" 84

NY 860 380

Stanhope

CARRICKS MINE, St John's Chapel, Durham
 See also ROWANTREE MINE

KCD (1948), 24, 27-8, 91, 93, 100, 102, 109, 235, 243(?) Fe, Pb.

$\frac{1}{4}$ ml SW of Ireshopeburn Village. On Groveheads
 Veins and others associated. Main entrance
 is Craig's Level, started from Cold Knuckles
 [NY 861 380] in 1863. Lead ore, from veins
 and flats, but not rich. Mainly worked
 for iron ores - limonite above, siderite below.
 Older level is Groveheads Level ca 1000' WSW
 of Craig's Level.

PLAN of MINE, including flats, on p 236.

PTO

Siderite, ankerite, quartz, fluorite, dolomite,
calcite, galena, "limonite" occur.

T. Bridges & B. Young (1998) I.R.S.

"limonite" worked; some
or ankerite.

Goethite var
pts after siderite

CASTENHOLE VEIN, Forest & Frith, Durham.

KCD (1948) 291 group of small veins
worked on E side of the road, $\frac{1}{2}$ ml
S of Bands Mine. Levels & shafts.

Dumps have amber fluorite, baryte &
small quantities galena. assoc with
limonitised limestone. A x-cut
adit W of road shows no mineralis'n.

1" 84

NZ 078

484?

CASTLESIDE (SMELTING) MILL (Pb), Castleside, Durham. (I)

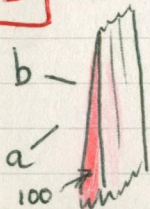
See also HEALEYFIELD M.

RPH Lamb, spec $\rightarrow$ RSWB (8/96). 96-107. One

slag specimen with a cavity broken into
 giving two specs (RSWB 96-107 & an RPHL spec)
 each with a long pointed bladed
 red/colourless (!) ~~tr.~~ pleochroic crystal
 unident. ?minium (Dana - v. pleo)

v. info (III)

c Tapering blade (to chisel end); ? orthorhombic
 or lower symmetry, elongated 11^2 c axis.
 Very prominent cleavage $\{100\}$ - probably a
 layer-lattice structure. Nearly colourless
 viewed along b axis, but carmine red
 viewed along a axis. $\{100\}$ face smooth & bright.



No stream!  ? 3 [stream!]

RPHL reinvestigated site 26/8/96. "At 078 488"
now a picnic site with remains of the
smelting mill; slags only on bank of
stream. Although a Pb smelter and Pb
metal found in slag, quite a lot of Cu
as well, including metal, cuprite, green
and blue phases. No more pleochroic
phase found this time.

RPHL spec's $\rightarrow$ RSUB 16/10/96 Various ^{ivory $\rightarrow$ blackish} metallic-looking
materials, some soft, some harder. Some (a few!) deep red
spots. ??litharge?. Much cuprite, copper. Trace connellite,
& ?langite. Aragonite needles in vughs in one spec.
Fine white matted needles tanarkite. Pearly white
?hydrocerussite. Malachite (efferv. w. HCl).
?brochantite.

CASTLESIDE MILL, Castleside, Dur. (II)

RPHL (7/99) Priv Comm. At NZ 078 484
Several samples of silvery metal have Cu, also Sb $\rightarrow$ ~20%
Spec's from A. Natheiss for ident (7/99) have, on
slags and on metal ~~matrix~~: Excellent
elyite xls on hydrocerussite (IR) with excellent
chenite xls (Hce $\rightarrow$ white, no fizz); caldonite
radl'g long prismatic (Hce $\rightarrow$ white + fizz);
good xls anglesite (FTIR); malachite, ceprite;
~~assagrenite blades~~; gypsum; wroewolfeite
(FTIR); cerussite (IR); ceprostitite, violet
metallic broad blades; silvery metallic long
blades with inclined terminations; c'less and

Abs's in correct positions but "valley" infilled.

adamantine transp blades w. rectang. termin's

tending to fans, wavy cross structures. 
[look like valentinite?] ^(Abs w. traces) pink yellow blades? 

Black-blue nodules, inside c'less $\rightarrow$ grey-blue,
compact radiating, looks like Vivianite
~~the~~ FTIR (7/99) ~~not~~ = vivianite. [has 1048 vs with
shoulders; 565; 1731 + 1626?; $\sim 3300 \text{ cm}^{-1}$];

brown hex plates (FTIR — not enough or
too weak abs), c'less [rarely] to greenish
(yellowish to brownish-green) rosettes of hex
plates intim ass. w. anglesite :- FTIR: little
abs other than anglesite impurity...?

Traces connellite. Some ? langite (twinning),
(Rectang plates). etc. ?

CASTLESIDE MILL, Castleside, Dur. (III).

Lanarkite, c'less needles some fine-tipped and matted, mainly in bubble cav in metal, also white massive under hydrocerussite (FTIR³)
Devilline, green blades (m'chem, diss HCl ~no efferv, no' ghost left; ATTCM $\rightarrow$ much Cu, ~no Zn).
Traces linarite (vis.). ~~Devilline~~, green ~~pearly~~ blades

R Lamb spec's, examined 8/99.

544D: c'less small bright hex xls. - look like leadhillite group (?).

No number: 1 Pale green gypsum-like xl, cf 83-87 ex Glengaber mill, Wanlockhead.

curious "pleochroic" phase (Card I). Careful exam:-
probably a class transp blade with a
cleavage in which red material in
cleavage planes gives a pseudo-
pleochroic effect ("Venetian blind" effect) ??

D. Plant (2001) Microprobe analys of metal phases

"Silvery met. blades w inclined termin's" = $\text{Cu}_3(\text{Sn}, \text{Sb})$

- a bronze. XRD single $\times 1 \rightarrow$ Orth C2 mm unit cell

$28.531 \times 9.506 \times 4.308 \text{ \AA}$; Not in Daresbury database.

Structure obtained.

Cuprostibite confirmed.

$\text{Sb}_3(\text{Sn}, \text{Pb})_2$. Silvery, rectang. outlines

CASTLESIDE MILL, Castle side, Dur. (IV)

(Cu, Ni) Sb, (Cu: Ni = 54:42) Near zlatogorite
(in which Cu = Ni).

(Ni, Cu) Sb (Cu: Ni = 36:58. of. zlatogorite

Specs from A. Nattrass (5/02) [RSIB 02-79]

Slag (Cu) with cuprite, ? brochantite;
a bright black shiny hex to rounded plates
mostly $\rightarrow$ 2 mm, some to $\sim$ 5 mm, some with
trigons on faces. V. soft; micac. clear.
No efferv. with NaN_3/I_2 so NOT sulphide.

Prob. = graphite.

Specs ex R.P.H. Lamb (10/08) 1 v.g. laurentthalite
(vis. 1D), langite^(vis), ehringite (vis. 1D)

1"84 NY 985? 361?

CATTERICK MINE, Stanhope, Durham

See also YEW TREE M.

KCD (1948), 256. Quartz, near watershed,
where Slitt & Yew Tree 'V's intersect, on
W end of Catterick [Moss]

1" 85

NZ 2931 3031

CHILTON QUARRY, Ferryhill Station, Durham.

KCD; SRMRGB 4 "F" (1952), 14.

Ref to A. Fowler,

Geol Mag 80 41 (1943); 81 193, 265 (1944) — Fluorite

in the Permian Magnesian Lst. of E. Durham in
veinlets or replacing the l'st., assoc. with

baryte, sphalerite, galena, dickite. Excellent
examples in Chilton Q., nr Ferryhill Stn. (NZ 3031)

Fluorescence & RE content v. diff. from Pennine
fluorites: yellow xls; strong yellow-white fluoresc. (LWuv)

Chilton Quarry, Ferryhill Station, Co.
Durham [Grid Ref: NZ 300 314] -
7 July 1995. *RSN (95) 27*

NB, Leader: J. Baty, Reporter:

Steve McLean

This was an evening visit to look at the mineralisation of the Permian Raisby Formation which was attended by a group of around 15 people. John started us off by talking briefly about the geology of the site which consists of Raisby Formation dolomites underlain by Marl Slate and the dunal Yellow Sands which rest on the Basal Breccia and are underlain by interbedded Carboniferous Coal Measure sandstones, mudstones, shales and coal seams. In the underlying coal measures is to be found the Trimdon Anticline and above this is a large dunal ridge trending roughly ENE-WSW. John explained that there is a high degree of correlation between the mineralisation and these underlying structures.

Mineralisation consists of irregular cavities (which are probably secondary after sulphate) which are lined with either calcite, baryte or fluorite. Galena, sphalerite and chalcopyrite have also been recorded from the site.

The mode of formation is explained by the Hirst and Smith (1974) model which states that brines rich in barium, chlorine and fluorine are found in the coal measures and it is suggested that these were localised in the Trimdon Anticline and passed upwards into the Permian Sands in the dunal ridge. From there, was further migration into the dolomites where the Marl Slate was absent or thin on the crest of the ridge. There, sulphate rich brines in the Raisby Formation, from the diagenetic gypsum, mixed with the

barium and fluorine rich brines and caused precipitation of the fluorite and baryte in the cavities.

There was very little fluorite detected on the day (which is incidentally amber in colour), but much greater quantities of calcite and reasonable quantities of baryte. An interesting digression was the discovery of 'fossilised' dog and human footprints trapped inside hardened muds at the bottom of the quarry which were used as an excellent example of how fossilisation occurs. All in all a most interesting evening which, combined with excellent weather and a very friendly quarry manager, is much recommended.

1"83 NY 850424-834427

CLAYPATH VEIN, Stanhope, Weardale, Durham

See GREENFIELD VEIN

1"84

NY 8445 367

CLINTS LEVEL, St Johns Chapel, ^{Stanhope} Durham
= CLINTS CRAGS LEVEL

~~of ~~1848-1862~~ ~~1848-1862~~~~ clint Pb under WELLHOPE HUSH

KCD(1948), 234. Fe, Pb. On clints low, Middle,
 and High veins at head of Ireshopeburn.
 Level driven 1848-1862, 1930' in length, gave
 disappointing lead results. Nor worked
 for iron ore, but dumps rich in siderite.

CLINTS PITS, Wellhope, Stanhope, Dur.

(cf CLINTS LEVEL, St Johns Chapel, Stanhope, Dur)

See WELLHEADS HUSH

1184

NY 94 29

COLDBERRY MINE, Middleton-in-Teesdale, Durham. (I)

See also RED GROOVES MINE.

(=? Hudeshope Pb mine of 056" map?)

NOT = Coldberry Veins, Foreste Frith [qv]KCD NF(1959) 135. On Hardberry Hill Vein; Lodgesike V;
wiregill V. galena, fluorite

KCD (1948) (Pb) 301, 302 At E end of Coldberry Gutter. Coldberry North L. @ 1295' OD ~~is~~ explored the Lodgesike-Manorgill V in the gt. L'st with little success. ~~The lower~~ vein a clay filled shatterbelt - not mineralised. A lower level 900' E by N of the N. Level portal revealed no mineralisation. The fault-vein is exposed in Longmire's gutter 1500' NE of

where this joins Hudeshope Beck - again not mineralised. The great oreshoot starts 1750' ENE of this point & extends 3200' ENE. The next mine to the NE is Lodgesike mine

RSN(1994) 25

Off then for a drive to Coldberry Mine (NY 944 290), which is one of the mines of the Hudeshope Valley, for a pleasant lunch stop on the banks of the stream. During lunch the group were introduced to the history of the mines of the valley and in particular Coldberry Mine and Coldberry Gutter (NY 930 290). Coldberry Mine was one of the most successful lead mines in the dale and was in fact the last working lead mine in Teesdale, finally closing in 1953. The mine worked a number of veins, the principle being the Lodgesike Vein which was worked at surface at Coldberry Gutter. This opencut extends from Coldberry Mine in the east to Red Grooves Mine (NY 923 292) in the west, a

distance of over 1500m, and is by far the best remaining example of a hush in the dale. Strata were worked from the Four Fathom Limestone up to the Grindstone Sill, the Great Limestone, which is the most common ore bearing rock in the area, being impoverished here. Coldberry Mine also operated at depth from a number of levels and shafts mainly exploiting the complex of veins situated to the south of Lodgesike Vein.

Although there is a considerable variety of minerals on the site, including fluorite, galena, sphalerite, marcasite, quartz, calcite, iron oxides,

Cont'd → (II)

COLDBERRY MINE, Middleton-in-Teesdale, Dur. (II)

goethite and hydrozincite; the group were tempted with a specimen of millerite from Sunderland Museum and challenged to find some. Millerite (NiS; sometimes known as hair pyrites) is a rare mineral in the Northern Pennines but does occur in clay ironstone nodules in some of the shales at the top of the gutter.

After a strenuous walk up the gutter (not helped by the extreme heat) several of the party continued up the hill to look at the old reservoir which was used as the supply of water for hushing, whilst others began the search for millerite in the gutter itself. The group were also shown the exposure of the Tertiary tholeiitic Cleveland dyke which lies adjacent to the vein within the gutter. Several nodules later and virtually everyone had found some splendid examples of acicular millerite crystal clusters (everyone but the leader of course... must be a lesson to learn there somewhere). After a short walk to Red Grooves Mine (NY 923 292) to investigate the mineral assemblage

there, and several short stops to admire what must surely be one of the most spectacular views of Teesdale, the day ended back at Hudeshope Beck after a welcome stroll down the hill. All in all it was a most interesting and successful day.

RSN(198) 3215. Visit

Established that the millerite is restricted to a very narrow horizon of nodules near top of steep slopes on N side of the "Gutter" & extend round the hillside

1184 NY 82 35

COLDBERRY VEINS, Forest & Frith, Durham.

NOT = Coldberry Mine, Middleton-in-Teesdale [95]

KCD(1948) 288-9 Workings on Coldberry Hill V &
Coldberry Sun V. C. Hill V. worked opencast
- baryte, subord. amber fluorite, galena.

Small ^{from} flats said to occur.

Superficial workings of C. Sun V. show
witherite, partly conv. → sec'y baryte,
with some amber fluorite.

"The level... proved only fluorite, no Ba..."
Some dissem. galena & sphalerite on the

dump.

OS 6" map shows "Coldberry Low Level" & "Coldberry Shop" at 826 3505, "Coldberry High Level" and "Coldberry End Hush" at 828 358, these two areas connected by a line of "old shafts (Pb)".

B. Young (1985) PYGS 45 199-206. Minor witherite in Coldberry Sun Vein, at 824 355

T. Bridges B. Young (1998) JRS. Mammil-xline goethite, COLD B. SUN V.

COLLEGE EDGE, Edmondbyers, Durham.

See SWANDALE HEAD

1"84 NY 90 43

COPTCLEUGH MINE, Stanhope, Durham.

See also WOLFCLEUGH MINE; BURTREE PASTURE MINE

KCD N-F(1959) 134. Under investigation for fluor spar

KCD (1948), 28, 222. Coptcleugh V = Wolfcleugh
Old V. worked in Wolfcleugh mine [qv]

The Horse Level of Burtree Pasture M. starts
on right bank of Sedling Burn 2700' NNE of
Cowshill Bridge. At 300' from portal, a small
vein discov'd, here called Coptcleugh V., probably
contin. of Wolfcleugh Old V. of Rookhope.
Coptcl. V. 4-5' wide of "spar", hard to drive.
Small flats assoc. with it NE of the Horse L.

1/84

NY 835 418

COPT HILL QUARRY, Cowshill Dur.

BM(NH) spec: Apophyllite, large crystals -
Copt Hill Quarry, Durham.

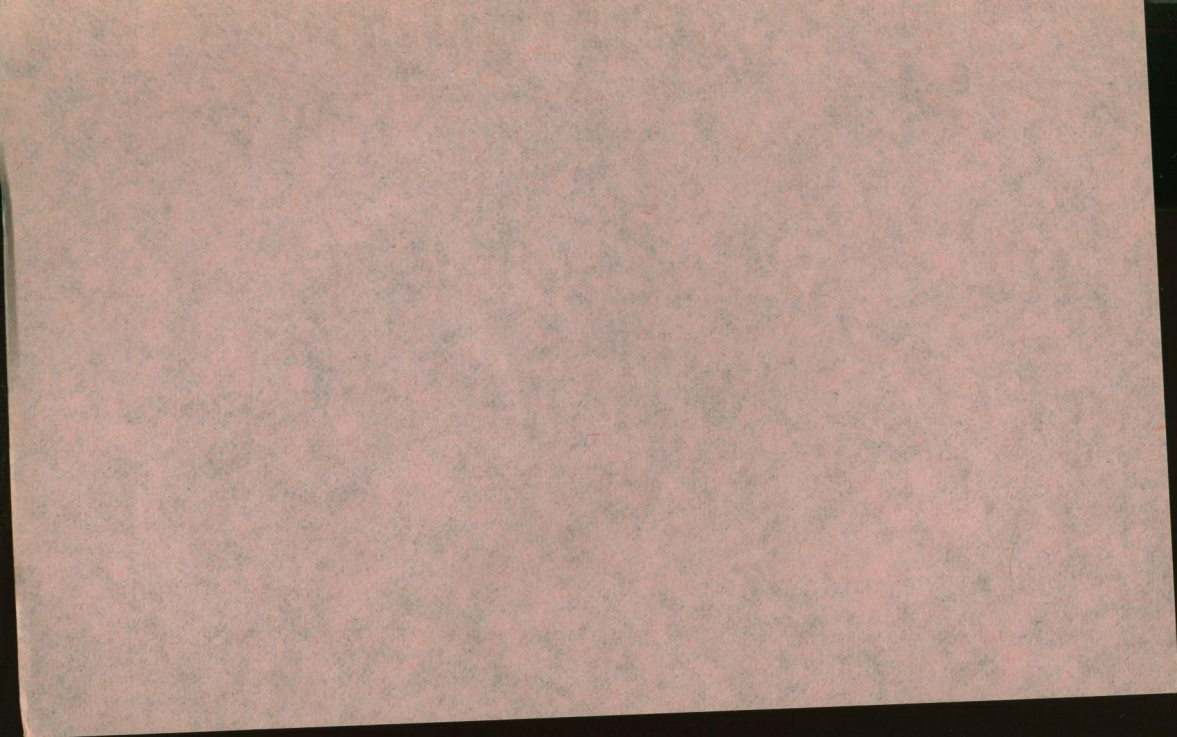
GR /65 No accessible quarries seen
at Copt Hill, [NY 85 40] nr. Cowshill,
Weardale.

B. Young, Priv. Comm., 7/88. Small

quarry near river W of Cowshill
exposes Whin Sill, with pectolite
apophyllite, analcime, chabazite.

WEST CORNFORTH Q., Coxhoe, Dur.

See COXHOE



184

NM 998332 - 999,335

CORNISH HUSH, Stanhope, Durham.KCD (1948), 261.

Pb

Cornish Hush is an opencast at 998332, $1\frac{1}{8}$ mi SSW of confluence of Bollilhope & Howden Burns. Cornish Hush mine is around 999335, 2000' NNE of the Hush, shafts & levels described. On dumps of Low Level, at 979'OD, quartz, galena, calcite, & a little chalcopysite. Upper Level (1088'OD) dumps larger, minerals similar, but pyrite, partly ox $\rightarrow$ limonite is abundant.

1" 84

NY 996 373

COVES MINE, Stanhope, Durham

KCD (1948) 258 Coves or Park Vein passes
beneath Parson Byres Farm, 1 ml SSE
of Stanhope. Dumps of a level,
500' NE of farm, has fluorite, quartz,
siderite. To the SW the vein runs
between Newlandside & Jack Craggs Q's &
has made the l'st unit for quarrying
→ limonite rich in silica - the

altered belt mainly on NW side of the
vein. Level e shaft in Cow Burn
raised some galena in coarse
purple fluorite with quartz &
limonite.

1" 84

NY 81 30

COWGREEN MINE, Middleton-in-Teesdale, Durham. (I)KCD N-F (1959), 139.Baryte mine, closed 1952.RSW Coll.Baryte, large clear xl. Cow Green Mine,
Green Hush Vein 106 ft. level mouth, coll
A. Russell, Jan, 1942.KCD (1948)(Ba) 14, 16, 52, 58, 67, 90, 91, 100, 103, 104, ~~282~~, 343p90: In Winterhush V., quartz in an unusual sugary form.
p91: Ankerite (ca 5% Fe [low]). p103: Dolomite in the
Whin Sill p283: MAP p285: SECTION

p 282 Worked Winterhush, Greenhush, Isabella, Teesdale
(E. Cowgreen), Hopkins, Middle, Holmes, Rods, and
Angle (Rods Cross) Veins, all yielding baryte
from early superficial workings, ~~and~~
though recent (post-1935) workings only on
Winterhush & Greenhush V's, underground.

Galena is present but very subordinate,
also occasional sphalerite. Some siderite,
much ankerite (one near dolomite, & one less
common, more ferruginous) in flesh-coloured
masses resembling baryte. Witherite only
on Winterhush V near footwall position of the
base of the Whin Sill.

Main shaft = Wrentnall Sh. from 1575' OD

COWGREEN MINE, Middleton-in-Teesdale, Durham (II)

to the 56' level on Winterhush V., also an
adit starting 160' N of the shaft, 1640'
long. Also Horse level on this vein

Dearman, WR & Jones JM (1967). Trans. Nat.

Hist. Soc. Northumb. 16 193-6

Millerite

B. Young (1985) PYGS 45 199-206. At 810 305.

Minor witherite

1184

NY 823422 - 833424 and
834421COWHORSE MINE, Stanhope, Durham

See also PUDDINGTHORN VEIN

KCD (1948), 215. Pb Cowhorse Hush, at
823 422 - 833 424 worked lead ore from
Cowhorse Vein. Underground, the Mine,
developed 1854-1876. Main level = Low Level from
Killhope Burn at 1400' 05 cuts various veins.
Fluorite, quartz, galena, carbonates,
limonite near outcrop.

1" 85

NZ

31

34

COXHOE, Durham.

See also RAISBY Q.

West Cornforth Quarry, near Coxhoe 29
[Grid Ref: NZ 318344] - 21 June 1996

NB, Leader: Steve McLean RSN(196)

Twelve members turned up for the annual evening jaunt to look at the geology and mineralisation of

the local Permian rocks. On this occasion the trip was to investigate the mineralogy of the abandoned West Cornforth Quarry which lies just off the A1(M) near Coxhoe. The quarry was worked for Raisby Formation limestone and the floor of the quarry is more or less at the junction of the Raisby Formation and the Marl Slate (although unfortunately the known Marl Slate exposures had recently been dumped on and there were no collectable exposures left). Nevertheless the party enjoyed finding from loose blocks on the quarry floor plenty of gypsum and one specimen which (on testing) was found to contain good, partly dissolved crystals of celestine. They also found

some very nice small euhedral crystals of sphalerite from *in situ* exposures on the quarry faces. There were also the usual calcite filled vugs which can, on occasion, be quite impressive.

It was a most enjoyable evening, especially for those who managed to have a look at the hundreds of newts in the quarry ponds!

CRAGHEAD COLLIERY

Durham

KCD (1948), 334. Witherite, in two small deposits, where worked. The W. Busty deposit ca 1 ml SW of the shafts 3000' W of Holmside Hall. Wider deposit in the E district, $\frac{1}{2}$ ml ESE of the shafts. A little baryte, also occurs

B. Young (1985) PYGS 45 199-206. Major witherrite.

1"84

NY 99 39

CRAWLEY OPENCUT, Stanhope, Durham

KCD N-F (1959), 133. On Crawley Vein. (Fluorite?) has been worked here.

KCD(1948) (F) 5, 249. Fluorite mining began here, in 1882. Spectacular surface workings on vein 10-20 ft wide between nearly vertical walls of coarse sandstone. Attempts to work fluorite here as early as 1854. Also worked deeper by inclines & a X-cut adit from the W side of the main

road 1000' ENE of the mineral railway
crossing - Not a success for lead ore.

CROXDALE COLL.,Durham.

KCD (1948) 331. 3ml. S. of Durham. Baryte
(Wilson, Eastwood, et al, 1922. SRMR6B, "Baryte with")

Nor m OS gazz

CUCKFIELD FELL, Durham.

TM Hall (1868) p61. Sulphur.

1"84

Cent. on NY 957 477

DERWENT Pb MINES, Humstanworth, ~~West~~ Durham

RSWB (6/66) 5, 40

Dumps near NY 955 478

recently dug over: quartz; traces good
fluorite, purple cokes. Some grit matrix

1"84 NY 902 403

DOWKS LEVEL, Stanhope, Durham.

OS 2½" shows "Dowks Level" at 902 403

KCD (1948) 228-9 worked Old Fall (=Boltsburn) V
on SW side of Middlehope.

1"78

NZ 348 602

DOWNHILL QUARRY, Boldon, Durham.

See also BOLDON COLL'Y.

T. Bridges & B. Young (1998) JRS. Pyrolusite [?]
~~= dendritic markings of~~ "soft black Mn oxide"
coating sand grains.

DRYBURN VEIN MINES, Stanhope, Dur.

See also HILL END; BIRCH V.

RSWB, TBG, III 98 (3/6/63) Near Hill End. Dumps in
coppice at 014 363₅ have good x/s purple
fluorite; platy baryte, calcite, good quartz.

KCD(1948) (Fe, Pb) 260 At Dryburn Side, $\frac{1}{4}$ ml
N of Hill End, old sh's on Dryburn V for
2000', also a level. Dumps show purple
& green fluorite, chalcedony, quartz, and
aragonite. The EAST DRYBURN MINE
at Frosterley was worked from a level

from Mill Eal, 1250' NW to cut the vein
workings only 500' long

1" 84

NY

84

32

DRYGILL SIKE, Forest & Frith, Durham

KCD (1948) 292. At head of Drygill Sike,
3600' NW of the Langdon Beck Hotel,
a limestone is replaced by limonite,
with nests of pink baryte. Within
the Burtreeford Disturbance.

1" 84

NZ 066 432

DRY PRY VEIN, Walsingham, Durham

See also BURN HILL VEIN

KCD (1948) 263 Small vein, slightly W of N
worked ca 1880 $\frac{3}{4}$ ml N of Tunstall House,
from two shafts. Coarse quartz with
a little galena

T. Bridges & B. Young (1998) J. Rus. S. I, 3-14.

NZ 0676 4327: Sulphur, one spec., bright
yellow waxy deposit 5 mm across;

Covellite, dark blue coatings on
anglesite-quartz matrix. Anglesite
lustrous rhombs & blades $\rightarrow$ 4mm
common on dumps of old trials.
Linnaite, minute xls on dumps.

D. Green et al (2005) J. Russ. Soc. 8 [2], 66-70. In quartz,
galena w ox in cavs $\rightarrow$ anglesite, cerussite,
bindheimite. Grey ~~ceruss~~ supergene
galena on ceruss.

NY 791 316-8

DUBBYSIKE HUSH, Forest, Durham.

See also DUBBYSIKE MINE, LEVEL; MUSES LEVEL.

1"84

NY 793 3155

DUBBYSIKE LEVEL, Forest, Durham.

See also DUBBYSIKE MINE, HUSH; MUSES LEVEL.

1184

NY 795 320

DUBBYSIKE MINE, Forest, Durham.

See also DUBBYSIKE LEVEL, HUSH; MUSES LEVEL.

KCD (1948) 281 (Ba) Worked Dubbysike = Force
Burn Vein on SW slope of Herdship Fell. Worked
for lead up to mid 19th cent. The old
workings including an opencut & levels
- two higher, & lower, Muses Level. Little
galena is present, the vein being
mainly baryte. Reopened 1940 for
baryte. High level, at 1820' OD,
Hunters L. driven as X-cut 1060' Nwards
from Dubbysike. The new Dubbysike

shaft is at 1840' OD & meets Hedworth adit
at 44'.

B. Young (1985) PYGS 45 197-206. Major witherite

1"84

NY 98, 296

EAST RAKE MINE, Middleton-in-Teesdale, Dur.

KCD (1948), 310. Pb. Worked both Dusty
gill and East Rake veins in Gt Egglestone.
Adit @ 1135' OD from the Beck, N 1700' N of
the bridge on the Middleton-Stanhope road.
Also other trial levels, lusher, mostly poor

1"84

NY 868 396

ELMFORD MINE, Wearhead, Stanhope, DurhamKCD (1948), 252. F, Fe. 225, 226, 252. Pb.

On Slitt Vein. Workings to E from Elmford
Dough. Elmford level at 1231' OD; also one
from top of limestone. Flats (no plans) on
S side of vein at High Flat horizon - fluorite
quartz, galena, carbonates.

EM'S HUSH, Stanhope, Durham.

See also SMITH'S HUSH; LANGTAE HEAD MINE;
BURNHOPE VEINS

OS 6" & 2½" maps show "Ems Hush" at above reference, as a double hush, branching from Lang Tae Burn above Smith's Hush & below Langtae Head mine.

1" 85

NZ 2044

ESH COLLIERY

Durham.

KCD (1948), 339.
epynite.

Some banite, with witherite
Not exploited.

ETTERSGILL MINES, Middleton-in-Teesdale, DurhamKCD N-F (1959), 136.

In intermediate zone between
fluorite & baryte. Was worked during
war for zinc blende, but not since.

KCD NP(I) (1948), 297-9.

No galena, fluorite or barium
minerals! Blende. Gangue = siderite, with
a little calcite, pyrite, & quartz.

Vein of siderite & sphalerite exposed ~~from~~
in bed of Ethersgill Beck from 300-460'
NNW of the road bridge at Dirt Pit Farm
Worked by Dirt Pit Level & nearby
incline. Also limonitic iron ore.

FAIRHILL.

Durham

See also FLOW EDGE, Alston, Cumb.

W. Phillips (1823) FAIRHILL & FLOW EDGE. Cornus site

T Bridges & B Young (1998) JRS refer to the above

1"84

NY 786354

FAR QUARRY, Forest, Durham.

See also NEAR QUARRY

1" 84

NY 94 36

EASTGATE QUARRY, Stanhope, Dur."Blue Circle" cement limestone quarry.

EASTGATE QUARRY, EASTGATE [NY 947 368]

The Great Limestone, the lowest member of the Namurian sequence, is worked here for cement manufacture: it is approximately 20 m thick. This limestone is the most important ore bearing unit in the orefield and hosted large vein and replacement orebodies formerly worked at numerous mines. In Eastgate

Quarry the underlying Tuft Sandstone is exposed in places in the quarry floor. The overlying Coal Sills sandstones and shales are exposed in the higher faces.

Development in the east end of the quarry has exposed a previously un-mapped roughly NE trending vein. Contamination of the limestone by vein minerals has led to the abandonment of further development on this face. Much of the mineralised ground is now in a badly broken state but where still visible in situ in the Great Limestone the vein consists of 1.5 to 2 m of broken limonitised and silicified limestone with bands and pockets of well crystallized pale purple and locally amber fluorite with traces of galena and a little calcite. Associated with the vein are small replacement "flats" consisting of silicified limestone in which occur numerous vugs lined with deep green and purple fluorite. These commonly exhibit alternate purple and green internal banding. The deep green colour alters to pale purple within a period of weeks when exposed to strong sunlight. Relatively large (up to 1 mm) visible fluid inclusions are present in some of the crystals.

Quartz, Ankerite

B Young (1988)

B. Young Russ. Soc. N'letter (1995) 26, 35-36

A small vein of green & purple fluorite with cubes to 2 cm. Colours etc described.

Expos to sunlight changed green xl → purple, noticeable even after 6 weeks.
- may be why green fluorite rare at surface!

M. Wolfe (2006) UKJMM 27 p 8. Now closed.

Attractive pale green fluorite well-known. Recently "startling" yellow xls, mostly frosted but some bright & deep gold-yellow like Hilton M. spec's. Often have thin purple zone just below surface.

NZ 27 62

FELLING COLL. ^{Felling,} A. Gateshead, Durham.

KCD (1948) 331. A mass of baryte found here
(Clapham & Darglish 1864 [1884?]).

T. Bridges & B. Young (1998) JRS (NZ 280 628)

GeL (1858) :- gypsum xls, elongate
twins & white acicular. A fine
spec. in Hancock Mus, Newcastle-on-T.

FIRESTONE L., Incline; Stanhope, Dur.

See GROVERAKE M.

1"84

NY 99 30?

FLAKE BRIG MINE, Middleton in Teesdale, Dur.See also CALIFORNIA M., ~~1884~~

KCD (1948), 310. Pb. In Little Egglestone, dumps from old shafts show galena, with purple & amber fluorite in sandstone & grit. Main entrance, Hutchinson's level, from E bank of Little Egglestone Beck, 2,200' S of Flake Brig Vein - purple fluorite abundant on the dumps. ca 1000' E of the level head, Flake Brig and East Rake veins unite to form the Sharnberry Vein. (See SHARNBERRY M.).

FLOW EDGE,

Dur.

See also FAIRHILL

W. Phillips (1823): Cerussite

See FLOW EDGE, Abston, Cumb.

1"84

NY

909 310

FLUSHIERE MINE, Newbiggin, Durham.
See also PIKE LAW.

KCD (1948), 295. Ba. Main level by
Flushiere House. Baryte, limonite.

Minor galena, witherite, yellow fluorite
Trial level in Blea Gill reached small
flats @ 1260' from portal, with purple
fluorite & a little galena. Portal
near 915305.

Roy Starkey, Priv. Comm. (2/85) Dumps

at 200315: on digging, corroded
looking yellow fluorite cubes $\rightarrow 2''$
also obtained anglesite.

B. Young (1985) PYGS 45 199-206 Minor
witherite.

RSN (195) 26 Dur
After lunch, sanity returned and the party made
its way down to Flushiemere Mine. Here it was
possible to demonstrate the remarkably narrow
boundary between the fluorite and baryte zones,
which is a feature of the Alston Block. Less than
a 100 yards separates dumps dominated by fluorite
from those of baryte. A small amount of witherite
also turned up and I found a nice 'Beetle Stone'.
All in all it was a very pleasant day.

1" 84 (= MIDDLETON) NY 873 282
FORCE GARTH A.Q., Newbiggin, Dur. (I)

B. Young Priv. Comm 7/88. Working quarry
in Whin Sill concealed from road
near. High Force: Pectolite and
zeolites etc analcime apophyllite,
chabazite.

RSN (1996) 29 12-13. [30/3/96 trip]
Pectolite, prehnite

PTO

K. Soc. N. (1994) 25
Force Garth Quarry and Coldberry Gutter,
Teesdale, Co. Durham [Grid Refs: see text]
- 16 July 1994.

NB, Leader: Steve Mclean

Force Garth Quarry (NY 873 282) is operated by Hargreaves Quarries Ltd. who currently extract whin stone predominantly for use as a roadstone. The Quarry Manager, Mr Chris Simms, met our group on site and conducted a fascinating tour of the working plant and quarry. We were shown the process of drilling a series of bore holes at the working face and introduced to the intricacies of 'home-grown' explosives which are used in conjunction with manufactured charges and detona-

tors. Mr Simms explained how the working faces are being gradually turned away from the nearby Pennine Way for additional safety. With the considerable technology used at the quarry it was interesting to learn that the best way to achieve the correct grade of rock is by experience. Too much explosive produces gravel, too little and the boulders produced really tire out the crusher.

After spending some time in the quarry Mr Simms conducted us round the crushing plant explaining the various stages the rocks are put through until the final product is achieved. We were very impressed to learn of the company's concern with the immediate environment and the protection offered to areas of botanical interest. Considerable resources had recently been invested in two sizeable settling ponds designed to remove the suspended particles in the quarry run off before it enters the River Tees.

The group were then let loose (adorned with hard hats of course) to search for pectolite which is quite common in Force Garth Quarry and the neighbouring High Force Quarry (NY 879 290), and certainly one of the best places to find quality specimens.

RSN (199) 34. Large xls ortho-
pyroxene in whin-pegm. veins.
calcite, qtz.

FORCE GARTH (= MIDDLETON) Q'y, Newbiggin, Dur. (II)

RSN('02) 40, 26. Visit 8/01. Now called
"MIDDLETON Q'y". In whin sill quartz-
dolerite + whin pegm. good radiating
pectolite + massive to 2cm thick; thin
layers prehnite much calcite. Galenax
found on upper bench.

NOT INDEXED
(ROCK) R. Ixer et al (2005) UKJMM 2539-46. In the doler-
pegm facies, ilvaite (1st undisputed Ecf
AWOK] Brit.) among opaques in petrogr.
w. micro-needles apatite, aet'd titanomagnetite,
titanite, minor pyrrhot, chalcophy, sphalerite,
galena, molybdenite, pyrite, haem, rock-sclerites
marcassite

1" 84

NY 88 44

FRAZER'S HUSHES, Stanhope, Durham.

See ROOKHOPEHEAD MINE

1"84

NY 926 424

FULLWOOD MINE, Rookhope, Stanhope, Durham
See also LOW FULLWOOD MINE

KCD (1948), 228. F. In the Rookhope Valley,
Fullwood & Fulwood N veins - continuation
of Ireshopeburn Vein system. N Vein worked
near 1573' & 1674' OD on the Rookhope-Westgate
road; [ie near 915 418 & 914 416] & near head of
Linzgarth Cleugh [around 925 423]. Fullwood
vein is 11^l & 275' SE. - cut by the Fullwood
crosscut from Boltsburn West Level -
Fluorite, siderite, galena, quartz, limonite

PTO

OS 6" map shows "Fullwood Mine" near 926 424.

1" 84 NY 81 35
Forester Frith

GRASS HILL MINES, ~~Middleton~~, Durham.
See also HIGHFIELD MINE.

TM Hall (1868) p 61. In Millstone grit. Silver-lead mines.
Mimetite; pyromorphite.

W. Phillips (1828) "GRASSHILL CHAPEL, in Weirsdale, Yorks" - minium
also GEL (1858) → also "mimetite"

RSWB, TB6, III 4849 ~~1111~~ (23/3/63) See under HIGHFIELD MINE

KCD (1948) 17, 113, 288.

p 113. Pyromorphite.

p 288 Grasshill N. Vein (Pb, Ba); Middle Streak V (Pb)
Black Streak V (Pb, Ba). Workings on these

veins to the NE of Grasshill House. Highfield
Hushes are opencuts here. Minerals include
baryte, subordinate amber fluorite, traces of
galena & pyromorphite. Lower down,
Blackway Level, starting 2150' E of Grasshill
House [Old Level (Pb)] of 6" OS map, at 822 B535, just
E of "Blackway Hush" is a x-cut adit -
baryte & amber fluorite equally abundant
on dump. Other levels, mainly unsucc.

T. Bridges & B. Young (1998) J.R.S. Phillips' minium prob.
smelting product - lead slag is among spoil.
Pyromorphite at 819 355 crusts to 10cm across.
Cerussite, Hemimorphite from BLACK LEADER V. 8190 3552
GEL's "mimetite" prob = pyrom.

1" 84 NY 85? 37.

GRAVELHEADS GREEN OPEN CUT, St. Johns Chapel,
See also LODGE SIKE M, Stanhope. Stanhope Durham.

KCD (1948), 234. Fe. E of Ireshope Burn,
attempts to find Lodgesike vein unsuccessful,
but at Gravelheads Green open cut, a
flat of limonite worked, probably
related to a x-vein passing through
Ireshope Burn 200' NE of Hemsley's level
mouth. In addition to limonite, quartz
and skins of baryte, traces galena found.

1" 84 NY 845419-854422

GREENFIELD VEIN, Stanhope, Dur.

KCD (1948) 217 Superficial workings & shafts for 2000' ENE from Greenfield Bridge. also hush WSW of the bridge:

coarse purple & amber fluorite, quartz, galena, limonite.

CLAYPATH VEIN is a branch

OS 6" map & 2 1/2" map: GREENFIELD V. [850420-854422]
GR. HUSH [845419-850420], GR. QUARRY [851-2423],

CLAYPATH V. to the N, at 850 424-854 427,
GUINEA GRO(O)VE MUSH a little to the W [qv]

1" 84

NY 982 392

GREENFOOT QUARRY, Stanhope, Durham

T. Bridges & B. Young (1998) ~~RHS~~ JRS.

Calcite "travertine" forming around
spring in W end of quarry.

1"84

NY

779 327-
780 328-GREENHURTH MINE, Forest, Durham.

KCD (1948) 278-280, Section, p 279 Worked a series of veins on W slopes of Herdship Fell.

The main adit was Middle Level, at 1810'od Rich ore. Dumps have coarse ankerite, galena, quartz, sphalerite, pyrite, calcite, & baryte - not much baryte, the mine being in the intermediate zone between the Fe Ba zones

B. Young, T. Pettigrew & TF Bridges (1985) Trans. Nat.

Hist. Soc. Northumbria, 54, 31. A few spec's
aurichalcite from dumps at 7792 3278
- patches to 3mm in gozzan & "dry-bone"
smithsonite. Sphalerite abundant, some
chalcopyrite. goethite.

B. Young (1985) PYGS 45 199-206. At NY 779328.
Minor witherite

B. Young (1987) PYGS 46 275-8. Amorphous CdS
on sphalerite with 1250 ppm Cd

T. Bridges & B. Young (1998) JRS. Aurichalcite;
"dry-bone" smithsonite.
RSN (1999) 34 (T. Bridges) Prev. found a little ullmanite. - today
only qtz + baryte

1"84 NY 790333

GREENHURTH QUARRY, Forest, Durham.

¹¹⁸⁴
GREEN LAWS MINE, St John's Chapel, Weardale, Durham. ^{NY83 883367 (I)}

SRMRGB "Gypsum..." (1918) p 58: Lead mine, 1 mile E of ^{? Should be S!!} St John's Chapel, in Weardale. Abandoned, 1918. Strontianite on dump at Low Green Laws level, near head of Daddry Shield Burn.

M. North BMSN (1998) 51, 13. BMS Coll 2035 Gypsum

KCD (1948) 28, 53, 68, 96, 239. 96: Strontianite.

239: S of St John's Chapel, exploited the Greenlaws E & W veins. W vein weak, E strong. Also 2 major X-veins - Swinhope Cross V (of Carricks M [qv]) & Westernhope Cross V. (coarse fluorite).

Main levels on W vein: Birksike L., a X-cut from Harthope Burn reaching vein at 515', S. 34° E.

Dent's L. from Greenland's Hush at 1410' OD, ca 2700' long on the vein. Dents Low L from W bank of Daddryshield Burn. Vein 2' in gt list of fluorite, & galena, calcite, aragonite & sphalerite also in dumps.

E Vein: Jackson's (Walt's) Level @ 1380' OD 1 mi SSW of Daddry Shield bridge. Amber fluorite, quartz, siderite, galena, calcite minor pyrite & sphalerite and, at horizon of middle level at 1218' OD, the strontianite. Also a belt of small flab for 1000' with cavities with fluorite & galena crystals; also ankerite, siderite.
RSWB, TBG, JRK, 5/64; IV, 119 Greenland's Hush. Fluorite, amber & purple

GREEN LAWS M., St. John's Chapel, Durham (II)

S. Moreton (2005) J. Russ. Soc. 8 [2] 71-75

Centred ~ NY 886 367. Flats. galena,
fluorite, cerussite. Fluor xls in
mud-filled cavities.

GREEN SLIT, Stanhope, Dur
See BURNHOPE VEINS

1" 78

NZ 228 602

GREENS FARM, Gateshead, Durham

Anderson W & Smythe JA (1942) Geol Mag 79 220-4
~~Byington~~ Millerite in borehole.

1" 84 NY 90, 430

GREENWELL'S LEVEL, Stanhope, Durham.
See also WOLFCLEUGH M.

KCD (1948), 223. Pb. on NE side of the valley.
Start 1700' ESE of
Wolfeclough shafts at 1265' OD. Worked
Wolfeclough New Vein, reached 850' from
portal, & followed NE for 2200'. Lead
concentrates. Fluorite on dumps
nearby

1"84 NY 917 466
918 460

GRINDSTONE CLEUGH, Hunstanworth, Durham

OS 6" map shows "Lead level" at 917 466
and "Old shaft (lead)" at ~~918~~ 918 460

KCD (1948) 273 In G. Cleugh, 2 small veins
traced. Low Grindstone V, expl. by a
short level [917 466] - fluorite with quartz
egalerina. High Gr. Level, 1600' higher up
the cleugh - no vein stuff on dump

"GROOVE RAKE"

1884

NY

895 442

(I)

GROVERAKE MINE, Stanhope, Durham.

See also GROVERAKE WEST MINE

KCD N-F (1959) 132 W-most mine on Rookhope Red Vein. Reopened.
galena; fluorite

RSWB II, 119 (18/8/62) ? working. Fluorite (x/s rare),
galena; ? jarosite; quartz; calcite; trace
cerussite needles, with galena in
gozzany shale.

KCD (1948) 97, 245 (Fe, Pb) p 97: Chalcopyrite.
p 245 Worked Groverake v the S branch
of Red V. A low-grade lead vein, mainly

1884 NY 89 44

GROVERAKE WEST MINE, Stanhope, Dur.
See also GROVERAKE MINE

KCD (1948), 222. Pb On W side of Rookhope
Valley an extensive flat of limonitic
iron ore assoc with Burtree Pasture Vein
Worked open cast by Weardale Iron Co.
Ironstone for 500' on both sides of the
vein 3-4' thick. Mined underground W
of the quarry face for 600' on N side of
the vein - access by GOWLANDS L., @ 1605' OD
which was continued SW to join, by
a sump, BURTREE PASTURE HORSE L. Lead ore,
fluorite,

NY 847,425-8

GUINEA GROVE MINE, Stanhope, Dur

KCD (1948), 217. Pb An open cut & two
flank adits from Heatherly Clough N of
Lanehead. Abandoned 1857

056" map: "guinea Groove Hush" 847-8 422-8.

1"84 NY 94, 40??

HANGING WELLS MINE, Stanhope, Dur.

See also HEIGHTS MINES

KCD (1948), 241. Pb, Fe. On Heights N. Vein
NE of NORTHGATE LEVEL (qv). Some iron ore
obtained. On the W side of Rookhope
valley. Next mine, to the E, is Brandon Walls
mine (qv)

HAREHOPE GILL MINE, Frosterley, Durhamcf HAREHOPE GILL MINE, Muggleswick, Durham.

See also HAREHOPE QUARRY

KCD (1948), 256, F, Fe, Pb. 31, 32, 114, 256, (274), Pb.

From Harehope Gill, 2000' E of White Kirkley a X-cut
adit 2175' long got, slitt vein then workings
extended 1500' E & 1050' W. Quartz, fluorite,
marcasite, galena.

p114: Limonite epimorphs after marcasite,
coated with a film of sulphur. ← ? jarosite
(Ref to in T Bridges & B Yceamp (1998))

1"84 NZ 004 484

HAREHOPE GILL MINE, Muggleswick, Durham

cf HAREHOPE GILL MINE, Frosterley, Durham.

KCD (1948) 274 Shaft (in good condition) 348' deep
700' SE of where Stanhope-Edmundbyers road
crosses Harehope Burn. Also unsucc. adit
along W side of valley, & another 1 ml
W of the shaft, from Burnhope Burn, at
Pedarms Oak, also unsuccessful.
Lead ore

1" 84

NZ

03 36

HAREHOPE QUARRY, Frosterley, Durham

See also HAREHOPE GILL MINE

KCD (1948) 262 Broadwood Vein, in NE
end of the quarry (which lies
athwart Bollinhope Burn between
Harehope Gill & the Wear) as a
belt of limonitisation. A level
near Broadwood mill for 1750' on
or near the vein. No other inform'n.

1" 84 NY 9₃ 2₈ ??

HARGILL BECK, Middleton-in-Teesdale, Durham.

KCD (1948) 314 In Hargill Beck, 2 ml NNW
of the bridge on the Middleton-Brough
road, small folds & faults exposed
Baryte occurs in the stream, & a
14-stone weight boulder of galena has
been found.

1184

NY

980 348

HARNISHA BURN MINE, Stanhope, Durham

See also YEW TREE MINE

KCD (1948), 258. F, Pb, Fe. On Yew Tree Vein for 3750', on SW of Bollilhope Burn. Open cut, with levels below (now inaccessible). On the extensive dumps at Harnisha Burn foot, purple fluorite, chalcedony, & quartz are abundant

OS6" map shows levels & shafts around 974 347-983 347, "East Harnisha Nush" around 985 348, and

"Bollihope Shield lead mines" around 989352, at
Harnisha Burn foot.

1" 84

NY 868 351

HARTHOPE GANISTER Qs, Stanhope, Dur.

T Bridges & B. Young (1998) JRS. Vivianite reported
in overburden (G. Johnson, priv. commun.)

1"84 N 2 06 34

HARTHOPE VEINS, Wolsingham, Durham.
NOT = HARTHOPEBURN V., Forest & Frith [qv].

KCD(1948)262. A N 20° E vein N of Harthope Beck, 1750' NE of St. John's Hall, traced by short level. Purple & amber fluorite chalcedony, & galena on dump.

On the N slope of the beck, 3000' N of St John's Hall & 600-1100' W of the Wolsingham - St John's Hall road, a vein of baryte, trend slightly S of E has been

worked.

1" 84

NY 86 32

HARTHOPEBURN VEIN, Forest e Frith, Durham

NOT= HARTHOPE V's, Wolsingham [q.v.]

KCD(1948) 293 Vein along NW side of Harthope
Burn [?= Harthope Beck of OS 2½" map]. Levels
driven N from the burn to vein, but
only vein stuff on dumps is a mixt.
of quartz e marcasite.

HARTLEPOOL, Durham.

KCD(1948), 331. C.T. Trechmann (Priv. Comm.) has
found fluorite, in the concretionary
limestone.

1" 84

NY

812348 - 818351 5 349

HAWKSIKE HUSH, Langdon Common, Durham
Forest & Frith PH

KCD (1948) 289. $\frac{1}{4}$ ml S of grasshill House. Main workings to E of road - early shaft. On dumps: amber fluorite, siderite, ankerite, galena. LADY'S RAKE [qv] is further SW.

1" 84

NZ 002 334

HAWKWOOD SIKE, Stanhope, Durham.

KCD (1948) 261 ENE vein crosses Hawkwood
Sike ca 900' SE of confluence with
Howden Burn. Level driven here, 1000'
ENE on vein & cut another vein
at ca 600'. ~~the~~ Content of both
veins unknown.

1" 85

c BEACH

N Z 442 460

HAWTHORN DENE, Hawthorn & Easington, Durham

(1)

RSN(2001) 38, 17. Burn cuts through Permian to beach where colliery waste with heavily pyritised deposits, decomp. to abundant copiapite.

Spec's ex A. Naltrass (2004, 2008) White cauliflowery (2004), needles (2008) supposed apjohnite (told at field meeting) on yellowish coarse copiapite (told at field meeting)
[Durh Council printout quotes natrojarosite and sideroxalite from here]
+ ex RPH Lamb (2009) Sampler from

all apparent phases seen & mixtures
tested with Na bromate in f. dil
 HNO_3 , & warmed. In no case was
a colour produced $\therefore$ Mn absent, so
not apjohnite.

FTIR ('06, 09) Clew fibrous (4 samples)
halotrichite-pickeringite. Tested as
above $\rightarrow$ Mn-free. Warmed with f. dil
 HNO_3 , SCU^- added $\rightarrow$ blood red ($\therefore$ Fe present)
in sol. = halotrichite. (One with extra
[impurity] abs at 1228 cm^{-1}).

Pale yellowish massive FTIR = nr sideronatrik
Clew xls & fluff ex RPHL ('09) = (see p. II)
hydrated sulphate (good spectra x2). Micro-
chem as above $\rightarrow$ Fe present, no Mn.

+ BEACH

HAWTHORN DENE, Hawthorn & Easington, Durh. (II)

The samples collected damp and dried out (?recryst in the process?) according to RPHL. The "fluffy" white needles gave good halotrichite spectrum, ID confirmed by the strong Fe reaction (warned w. f. dil HNO_3 @ AMTC $\rightarrow$ blood red) (Na bismuthate $\rightarrow$ no colour $\therefore$ no Mn). The c'lets xls also had Fe but obv. less, and no Mn. XRD powder (Robin Pritchard, 12/09) $\rightarrow$ hexahydrite, so ferroan hexahydrite.

RPHL (10/2010) Samples ex Hawthorn Beach, 2009
"purified" (selected) $\rightarrow$ RSWB. FTIR (11/10):

(vg IR) ↑

"H" pale yellow xline plates = nr copiapite;
"J" pale orange felted masses = sideronatrite;
"K" c'less harder more compact xls (not quite pure)
= near aluminocopiapite.

RPHL 4/13 ^{finer grained} grey vesicular slag has, in the
vesicles, c'less → white needles ettringite
(FTIR, 4/13), also c'less hex plates ?
and thin micaceous yellow ?

A. Nattrass

RHPL 11/11 ^{glassy} More granular grey slag with smaller
vesicles examined by RHPL, then some
FTIR'ed by RSWB.
The slag matrix IR near melilite (group)

2 BEACH

HAWTHORN DENE, Hawthorn & Eastington, Dur. (III)

2 A. Natrass

RmPL11/11 (Cont'd)

Blue-green octahedra

in matrix IR $\approx$ a spinel (not garnite).

One vesicle (Spec. 23) has tiny orange rich grains looking like hemite group.

Some c'less $\Rightarrow$ pale yellow "cubes" often white coated ~~see below~~ (rectangular). IR

distinctive, good, unident. Strong OH, cluster $\sim 1000-1100$

✓ Thin micaceous pale yellow (f. large) hex plates. IR: OH $\rightarrow 3470$ s, br, $3575 \rightarrow 3650$ sp; 538 s.

c'less hex. tabular xls. IR $\approx$ thin micac.

PTO.

1" 84

NZ 068 486

HEALEYFIELD MINE, Muggleswick, Durham.

See also CASTLESIDE MILL.

KCD (1948), 45, 70, 87, 275. Pb In Dene Howl,
 ½ ml W of the x-roads at Castleside, from which
 main adit, at 655' OD extends 4500' S. A no. of
 shafts & levels. galena, quartz, barite,
 probably siderite; limonite is the most
 abundant mineral on the dumps.
 The galena was Ag-rich - 15 oz. ton⁻¹.

T. Bridges & B. Young (1998) JRS. Pyromorphite^{071 488}
 (Young, 1985, JRS 1, 81-82). Linarite, xl crusts
 & minute xls: — (NZ 0689 4866). Covellite
 coatings on galena

1" 84

NY 92 39

HEIGHTS MINES, Stanhope, Weardale, Durham(I)

See also CAMMOCK EALS LEVEL

Famed for its green fluonite cubes.

KCD N-F (1959) 133. On Slitt Vein. Fluonite started reworking in 1949 from Cammock Eals Level (qv). Two new blocks of fluonite being worked - one beneath old Heights opencut now being stopped from a drift 195 ft above the adit, & another further E.

RSWB, TBG III, 50-54(3/63) ^{S.} Vein exposure above Heights Quarries. Fluonite, pink to greenish cubes.

23/3/63 Discov. of entrance to S. Vein Flats.

24/3/63 First exploration of Flats. good fluorite; calcite.

III, 96-8 (2/6/63), IV 32-35 (9-10/11/63), 118 (24/5/64).

FLATS. Excellent fluorite, purple to green cubes; good calcite; galena; fine acicular aragonite; quartz.
ironstone.

Flats explored pretty thoroughly. Plans in accounts.

IV, 118 (5/64) S. VEIN OPENCUT at 921-2 3885, by stream. Rather vast but barren. One specimen cerussite found.

HEIGHTS MINE (N), around 921393. Grassed over dumps & collapsed workings (? flats). green to purple fluorite cubes, calcite, galena, quartz.

HEIGHTS MINES, Stanhope, Durham (II)

KCD (1948) 83. Flats, worked for iron ore, confined to the High Flat horizon.

p 255 HEIGHTS PASTURE MINE. E of Rigg Mine. Slitt Vein ranges ESE across Heights Pasture, crossing Wear 2 ml E of Westgate. This stretch worked by Heights Pasture, & Cammock Eals mines. Heights Past. started as surface Pb trial E of Park Burn. Park Burn level driven 1862 near base of Nattrass gill Hazk as a X-cut reaching Slitt V. 806' from portal - still open to this point. Vein > 25' of coarse fluorite & quartz.

F. workings from surface started 1905, then with exhaustion of opencut, from Park Burn level - which part exhausted by 1918

p241 N. of Slitt Vein, HEIGHTS MINE worked Heights N Vein (= Brandon Walls Vein), Heights S Vein, & Heights E & W cross Veins. The S Vein & W X vein visible at surface, the former of quartz & fluor + limonite, the latter (seen in W end of E part of Heights Qu.) 5' of limonite & fluorite, with some galena. Veins chiefly important for the flats assoc. with them, mined for limonitic ironstone & some lead. Flats were assoc with

HEIGHTS MINES, Stanhope, Durham (III)

Heights N, & S, & W x-veins & with Coulthard's String, a small vein 150⁽¹⁷⁾ NW of the N vein. Flats 7-8' thick, gave 141,491 tons Fe ore from 1850-1863. Levels driven from surface on line of each vein, to the High Flat - then main xplor heading driven from which bords were turned 6 yds wide, a 3 yd pillar being left between the bords. Bords driven to edge of flat, then pillars recovered. Fe mining continued until 1867-8; W x-vein was explored for 800' NW of Coulthard's String, & N vein tried E of E x-vein. Neither very

successful. S vein also traced from Park
Burn Level in the Naltrass gill Hazle & Four
Fathom L'st. - unsucc.

Heights N vein continues to NE. In 1861-7
Northgate Level (x-cut adit) driven to vein
from Sunderland Cleugh in the upper part of
the Gt. L'st. Flats up to 15' wide found,
but poor in galena - some Fe mined from them.
To the SW the working joined up with those
from Heights mine; to the NE, extended 1500' from
the level head.

Further NE vein continues to Hanging Wells
Mine (qv), and then Brandon Walls mine (qv)

HEIGHTS MINES, Stanhope, Durham (IV)

H. Winstanley, 9/76. Two levels have been dug out near 921393 in Heights North Vein area. S one blocked after a short way; N one leads to large ramifying flats full of bright green fluorite xls on ironstone. xls near entrance of poor colour but superb green xls common further in - someone has, however, collected some and carefully smashed all the other visible crystals!

HEIGHTS PASTURE MINE, Stanhope, Durham

See HEIGHTS MINES

KCD (1948), 255, 83, F, Pb.

HEIGHTS QUARRIES, Stanhope, Durham.

RSWB, TG. 18/3/62. Vol II p. 22-23. Vast Quarries NW part examined particularly, where there are adits on a vein exposure. Fluorite, purple to pinkish, often in large polysynthetic cakes. Some green fluorite. Superb clear pinkish-purple cubes fluorite from dumps. Drusy quartz; limonite. Galena, calcite, fluorite in a level.

III, 49-50 (23/3/63) Cerussite in vein exposure in NW end, otherwise as before. Discovery of entrance to flats.

T. Bridges & B. Young (1998) JRS. goethite incl.
mamill x line - e "limonite" ψ -after siderite
or ankerite^u, e after pyrite cukes.

1"84

NY 910 298

HELL CLEUGH VEINS, Newbiggin, Dur.

KCD (1948) 300: At N end of Hell Cleugh,
1000' W of Moor House two veins, each
with 1-2 ft of limonite, traced by
short levels.

1"85 ^{E?} Monk Hesleden NZ 44~~3~~ 37~~3~~
HESLEDON DENE_A, Peterlee, Durham.

T Bridges & B Young (1998) JRS. Epsomite,
granular efflor's on outcrops of dolom-
limestone (Permian) on N side of
"Hesleden Dene", at "NZ 443 373"
[OS 1" map spells "Hesleden", NZ 443 373
is to S of the Dene & some way off]

1" 85

NZ 361 469

HETTON COLL'Y, Helton-le-Hole, Durham

T. Bridges & B. Young (1998) JRS. Clapham &

Daglish (1863, Report of the Brit. Assoc. for 1863, 37^[2],
37-39) reported the occur. of consid. quantities
of a soluble Al sulphate with "29.6%
sulphate of alumina". 1998 authors unable
to trace specimens, precise ident unk, CD
also reported melanterite & epsomite.

HIGHFIELD MINE, Durham.

See also GRASS HILL MINES

RSWB, TB6, III, 48-49 (23/3/63) Grasshill & Highfield
 mines: Baryte, galena, pyromorphite coatings,
 traces cerussite, anglesite; ironstone

1" 84

NY 880 290

HIGH FORCE QUARRY, Newbiggin, Durham.

In Whin Sill.

MM 28 45 (1947) Excursion.GR coll, ex Rayners. PectoliteMM 28 Lii (1947) Exhibit by Mr Walsh: Galena in pectolite.

B. Young (1988)

HIGH FORCE QUARRY, HIGH FORCE [NY 879 290]

The Whin Sill in this disused quarry shows fine columnar joints the surfaces of which are commonly coated with white radiating crystals of pectolite. Good examples of dolerite pegmatite with pyroxene crystals up to 3 cm long may be seen as roughly horizontal sheets within the sill.

Analcime, stilbite, apophyllite

1"84

NY 86 31

HIGH HURTH ^{EDGE &} VEIN, Forest & Frith, Durham.

KCD (1948) 293-4 Trials at High Hurth Edge,
3/4 to 1 ml E of Langdon Beck Hotel expose
the vein in an opencast. 9' vein of
limestone with strings of baryte. Colourless
baryte on dumps of an adit below
[? The "Old level (lead)" of OS 2 1/2" map at 862 3115?
Shafts show baryte, some limonite, &
galena

T. Bridges & B. Young (1998) JRS

Tufa [= calcite]

deposit in HIGH HURTH EDGE Q'y (NY 865 314)

has ~~these~~ Quatern insect fossils [i. 29]. (Rhodes, 1954)

1" 84

NY 860 410

HIGH SEDLING MINE, Cowshill, Stanhope, Durh.

See also SEDLING MINE

KCD (1948), 251. F, Pb. Above Sedling mine.

Worked for fluorite. Incline driven 1926-1930 starting at 1740'OD, down to 1700'OD. A stope, 300' long taken out. High Sedling Level, at 1460'OD recently reopened for ca 2,200'

B. Young et al (1996) J. Russ Soc. 6 [2], 97

Coronadite in ox. vein stuff; compact, steel-grey, closely spaced aggregates of small-scale

mamill. crusts. Galena, Fluorite,
quartz, sphalerite, marcasite,
chalcopyrite

T Bridges & B Young (1998) JRS Goethite,
"yellow ochre" at 870 408. Thaumasite
~~also~~ (B. Young et al (1998) JRS v. infra)

B. Young et al (1998) J Russ S. I 40. Thaumasite,
crusts of soft white spherules $\rightarrow$ 0.25 mm with
"limonite" on mudstone.

1"84

NY 950 280

HIGH SKEARS MINE, Middleton-in-Teesdale, Durham

See also LOW SKEARS MINE

KCD (1948), 306. Pb. On the E side of
Hudeshope, $3/4$ ml S of Lodgesike mine. Main
level a x-cut adit driven SE. On dumps,
limonitised limestone, amber fluorite, quartz.

HILDA PIT, South Shields, Durham.

KCD (1948) 331. galena (J.A. Smythe, 1923?)

1"84 NZ 01 35

HILL END, Stanhope, Durham.

See also DRYBURN VEIN MINES

RSWB, TBG. III 98 (3/6/63) Quarry at 014359 is
barren gait.

1"84

NZ

02

37

HOLYWELL MINE, Frosterley, Durham.

See also ROGERLEY QUARRY

KCD (1948), 259 (NOT in index!) worked
Holywell (= Slitt) vein on N side of
Weardale, $\frac{1}{2}$ ml WNW of Frosterley. Vein
& N branch also visible in nearby
Rogerley Quarry. In the mine vein
worked for 1740' from an adit in the gt
Limest, & the N vein for 1225' - both cut
by a X-vein. Limonite from both veins,
also galena

RWB spec ex Bakewell Stn (10/04)

Fluorite, $\frac{1}{2}$ "

clear interpen. cubes; green with wide
purple outer zone.

1" 84

NY 9905 3980

HOPE LEVEL, Stanhope, Durham.

KCD (1948), 249, 24. Fe, Pb. Driven 1868-77.
Starts from E bank of Stanhope Burn, 1250'
N of Stanhopeburn Bridge. Runs 2675' NE to
Red Vein. Much fluorite, quartz. Little
lead ore. Siderite, ankerite.

KCD N-F (1959) 133 On Crawley Vein. May repay
further development. Vein has been
worked also from CRAWLEY OPENCUT (qu).
Fluorite.

1"84

NY 936 320

HUDESHOPE HEAD VEIN, Middleton-in-T., Dur.

KCD(1948) 307 EW fault at Hudeshope
Grains tested by 2 levels. Upper at
1856' OD cut fault at 330', ~~followed vein~~
& continued 500' NNW. No ore. Lower at
1600' OD [937316] driven 1610' - did not
reach fault.

1" 84 NY 94 29?

HUDES HOPE LEVEL, Middleton-in-T., Dur.

See also RACKETGILL V., COLD BERRY M.

OS 6" map shows "Hudeshope Lead Mine" at
NY 941? 29x?

HUNSTANWORTH MINES Hunstanworth, Durham.

See individual mines'

KCD N-F (1959) 131-2 ~~131-2~~ Now being tried for fluorspar, from
 Whiteheaps Shaft. Fluorite; galena.

KCD (1948) Three groups: WHITEHEADS-SIKEHEAD;
 RAMSHAW-JEFFREYS; BOLTSHEAD GROUP.

1"84

NY 859 382

IRESHOPE BURN MINE, Stanhope, Durham

^{68, 97.}
KCD (1948), 225, 227, 228, F, Fe, Pb. = BARBARY MINE

Worked Blackdene, Ireshopeburn, & Old Fall Veins.

Ireshopeburn Horse Level portal is near the confluence
of Ireshope Burn & the Wear. 2630' SW of the

portal Rigg Level leaves the Horse Level &
reaches Black Dene Vein 915' from Ireshopeburn Vein.
Black Dene Vein here is of siderite, "spar" threads,
and only traces galena. The Ireshopeburn
Vein was richer in galena, also "spar"-
massive fluorite, a little galena, chalcopryite,
siderite.

KCD, N-F (1959) 134. being worked. ("BARBARY MINE").
Fluorite, galena.

KCD (1948) 222 EARNWELL L. starts from Irish Horse L.
235' from its mouth & runs SSE to Old Fall
Vein at 875 ft. - galena in "spar". NE of
Earnwell L. old workings net.

1" 84 Around ~~11~~ NZ 000 374

JACK CRAGS QUARRIES, Stanhope, Dur.

See also COVES MINE

NZ 32 65

JARROW COLL.,

Durham.

KCD (1948) 331.

(Low in Ag)

Galena (J.A. Smythe, 1923?)

1" 84 NY 95₃ 474

JEFFREYS MINE, Humstanworth, Dur
See also RAMSHAW M.

KCD (1948) 271. Pb. SW ~~side~~ of Bolts Burn,
opposite Ramshaw M. Ankeritic limestone.
galena (10 oz Ag ton⁻¹), purple fluorite, quartz,
traces sphalerite. Now flooded

1"84 NY 82 43x

KILLHOPE MINE, Stanhope, Dur. (I)
See also OLD MOSS VEIN

KCD (1948), 212, 343. Pb, Zn. Vein complex,
outcropping in valley floor. The outcrop
of Old Moss Vein may still be examined
in the banks of the burn. Main adit
= PARK L. @ 1518' OD [with ruins & water wheel
near its mouth] on the S. side of Killhope
Burn. Runs 2,750' N 75°W. [Portal near 826 431]
Flats probably present. Galena; quartz;
siderite; pyrite; ankerite; calcite;
purple fluorite; sphalerite fairly
abundant in places; limonite, a little

baryte on dumps of NE part of Killhope head vein.

GR, GS 8/65 Park Level dumps at NY 828 430 on SW side of Killhope Burn. Big ruins, giant waterwheel dumps along burn.

Much well-xld but weathered sphalerite, with ironstone, siderite, chalcocynite, synite, galena, quartz, phosite - blue, purple, occas. yellow; thin coatings

KILLHOPE LEAD MINING MUSEUM, KILLHOPE [NY 826 431]

of ? hydrozincite

The well known waterwheel at the derelict Park Level Lead Mill has been restored in recent years as an industrial monument. A small museum has been established in the miners lodging shop adjacent to the entrance to Park Level and restoration of the dressing floors and other buildings at this late nineteenth century lead mine and treatment plant are continuing under the direction of Durham County Council. The museum may be visited for a small entrance fee and an information leaflet is also available.

B. Young (1988)

KILLHOPE MINE, Stanhope, Dur. (II)

T.F. Bridges (2010) J. Russ. Soc. 13, 61-65. "The mineralogy of a small flat deposit at Killhope, Weardale, with the 1st record of dundasite from the N. Penn. Orefield" Details, photos (of locs & minerals).

Anglesite; ankerite; calcite; cerussite;
dundasite (1 spec only; on Fe-stained ceruss;
✓ destroyed in investigation!) (1st N Penn's, 2nd in
Pennines); fluorite (pale purple); galena; goethite;
hemimorphite (1 spec, minutely, x'd crust);
leadhillite (1 spec); quartz (rareish); smithsonite;
sphalerite; sulphur (minute, on angles in 1 cavity).

KIRKSTEAD LEVEL, Stanhope, Durham.

See WELLHEADS HUSH

1"84

Around NZ 09 35

KNITSLEY FELL, Wolsingham & Hamsterley, Durham.

- KCD (1948) 262-3 Four small baryte veins
on Knitsley Fell, W of the ganister quarries
- (i) Trials 600' SSW of Crowsfield Fm & 300' further SW
 - (ii) NE, S of Triang point 928 [1"84, 929]
 - (iii) In Knitsley Fell ganister quarry
 - (iv) On S slopes of the fell. - level 1400' E
of Shull Rigg Farm.

KNUCKTON BURN, Hunstanworth, Durham

See NOOKTON BURN

1184 NY 807 344

LADY'S RAKE, Langdon Common, Forest and
Frith, Durham. (I)

KCD (1948), 289. Ba, Pb. SW of HAWKSIKE
HUSH [qv], beside Harwood Beck. galena,
sphalerite, baryte, ankerite, siderite.

B. Young, MT Styles & NG Berridge MM (1985) 49, 555-9

At Lady's Rake mine, NY 8063 3414.

Magnetite-rich ore on part of dumps -
almost pure, fine-grained, dull grey masses
to ~ 10cm across ass. w. calcite. Some streaks
of greenish-white phyllosilicates - talc, chlorite,

smectite. Niccolite in it, sparingly, irreg
patches → 1 cm across in magn. & calcite, with
some thin crusts annabergite - ullmannite
& gersdorffite visible only under microscope.
Also grains of galena, sphal, cupy, pyrite,
pyrrhotite.

Dumps of trial sh. to NW, at 8028 3446 also
have magnetite ^{no Ni min's.} calcite, qtz, siderite, galena.

Dumps of Cadger well level [qv] also have mag (no Ni).

Beadle HL (1977) The Cleveland Indust. Archae-ist 7, 17-23

LADY'S RAKE, Foreste Frith, Dur. (II)
B. Young (1988)

LADY'S RAKE MINE, HARWOOD [NY 806 342]

An examination of the dumps at Lady's Rake and one or two other workings in the Harwood Valley has revealed one of the most interesting mineral assemblages to be discovered in the northern Pennines in recent years (Young et al. 1985).

Part of the Lady's Rake Dump contains appreciable quantities of magnetite-rich rock in which fine to medium-grained calcite is a common associate. Patches and streaks of greenish phyllosilicate minerals which include talc, chlorite and smectite are common and ugrandite garnets have also been found nearby. Niccolite occurs locally in this rock as small streaks and patches, its presence usually being betrayed by pale green encrustations of annabergite on weathered surfaces. Many of the phyllosilicates exhibit a similar colour and at first sight can be confused with annabergite. Other metallic minerals present in the magnetite-rich ore include galena, sphalerite, pyrite and rarely chalcopyrite and pyrrhotite. Polished sections examined microscopically reveal the other nickel minerals gersdorffite and ullmannite though these are not visible to the naked eye. This is a unique assemblage in the orefield and is interpreted as being, in part, a skarn assemblage related to the intrusion of the Whin Sill, the top of which is believed to lie close to the lowest workings in Lady's Rake Mine.

P.T.O.

The major part of the dumps shows an assemblage fairly typical of 'barium zone' mineralisation with baryte, ankerite, galena and sphalerite. The mine is of historical interest in being one of the London Lead Company's last working mines. It was abandoned by them in 1902 though some work was carried out by a local syndicate until 1908.

T Bridgese B. Young (1998) JRS. Annabergite, pale green crust on nickelae-magnetite-calcite from dumps at 8063 3414 (Young et al, 1985, MM 42, 555-559)

LANCHESTERDurham

See also STANDALONE FARM;

KCD (1948) 331-332. Great Spar "Dyke" - a major fault, running from the Healeyfield vein nr Healeyfield Farm, curving, but E-wards, for at least 8 mls, to the Burnham royalty.

In LOWEDGE plantation, $3\frac{1}{2}$ ml E of Lanchester, 4500' E of Woodlands Hall, are shallow pits, with pink baryte, a taint

with limonite, in the fault. 2000' to
the SW, in Sheep Walks, a baryte vein
worked opencast for 400'.

A branch becomes the South Moor
witherite vein [qv]

At Peth Lane Head 450' E of the X-roads,
baryte found at surface.

"LANEHEAD" VEINS, Stenhope, Dur.

See WEST PASTURE M., GROVERAKE M.

1"84 Around 850 337y

LANGDON MINE, Forest & Firth, Durham:

See also LANGDON HEAD MINE

KCD(1948), 292. Ba, Pb. $1\frac{1}{2}$ ml N of

Langdon Beck Hotel. galena in matrix
of purple & amber fluorite. Baryte
S of Moss Kein.

T. Bridges & B. Young (1978) J.R.S. Mammill-xline
goethite, LANGDON M's (NY 852 334)

1"84 Around 845 347

LANGDON HEAD MINES, Forest & Frith, Durham

See also LANGDON MINE

KCD (1948), 295. Pb.

Langdon Beck Hotel.

limonite, galena.

2½ ml N of

Amber fluorite,

Some barite in W

1"84 NY 8175 368

LANGTAE HEAD MINE, Stanhope, Durham.

KCD (1948), 218. Pb. At head of East Langtæ
Burn @ ca 2000' OD. Adit driven S, reaching
N. Langtæ Head V @ 1100' & S.L.H.V. @ 1450'.
Almost directly above level head N. vein
exposed at surface - purple fluorite &
quartz cementing sandstone fragments
Further E, aragonite abundant on
dumps with minor barite. Lead ore

LEONARD'S HUSH, Newbiggin, Durham.

See PIKE LAW

1" 84 NY 882 388

stanhope

LEVELGATE LEVEL, St Johns Chapel, Durham

See also OLD FALL MINE

KCD(1948), 28,89, 228, 252. Pb, Fe. On the
Old Fall - Scarsike(Middlehope) - Boltsburn Vein system.
N of the wear - gave access to lead workings
Old Fall level on same vein, nearby.

Massive marcasite occurs on the dumps,
probably derived from Slitt Vein.

Level starts at 1210' OD in the Quarry Hazle,
gave access to Slitt Vein near intersections
with Lodgefield & Old Fall Veins, and extended
2600' ESE of the latter. "Spar, thinly mixed with ore"

p238 A branch followed BLEAKLAWS CROSS
VEIN for 2450' SSE from Slitt V. - a shaft
connects to surface, with quartz, calcite,
purple fluorite, galena, limestone replaced
by ankerite & limonite. BLEAKLAWS Sh
600' to S is connected with end of
branch level by 200' X-cut. The
vein also followed by Levelgate Level
N of Slitt V. with a X-cut to Longsite V

1"84

NY 993,

LITTLE EGGLISHOPE MINE, Middleton in Teesdale, Dur.

See CALIFORNIA M., FLAKE BRIG M.

1" 84 NY 93 46
LITTLE KNUCKTON BURN, Hunstanworth, Dur.

KCD(1948) 273 Small amts of baryte from
a NNE vein about 1200' S of Yawd Sike level
portal

OS 6" & 2½" maps: Various shafts & levels
shown in Little Nookton Burn, from
933 477 to 932 466

LITTLE NOOKTON BURN, Hunstanworth, Dur.

See LITTLE KNUCKTON BURN

~~RR~~

LITTLE STANTON,Durham.L.R. Raymond

~~Robert M. Raymond~~ NF(1959), 215. The most S of a string of 101 bore holes at Little Stanton, a few miles NW of Darlington, proved ~~Robert M. Raymond~~ Lower Magnesian limestone with nests and veins of calcite, gypsum or anhydrite, and abundant barite. The underlying Carbonif proved between 625 ft & 642 ft (bottom of borehole), as crinoidal limestone with veins of gypsum heavily mineralised with pyrite.

LODGE GILL MINE, Stanhope, Durham.

See also SCRAITH HEAD M.

KCD (1948), 218. Pb Main level, @ 1920' OD
runs 2050' SE to Lodgegill V & 250' further
to Scand Hill V. Galena; purple fluorite;
quartz; aragonite; calcite; sidelite;
limonite.

1"84 NY 955 294

LODGE SIKE MINE, Middleton-in-Teesdale, Dur.

[NOT = LODGE SIKE M., Stanhope]

See also COLDBERRY, RED GROOVES M's.

KCD (1948), 301. Pb. On E side of
Hudeshope, opposite COLDBERRY M [qv]
Low level 'at 1381' OD. High level @ 1520' OD
Driven through to MANORGILL M [qv]. A X-cut
from MARLBECK M [qv] also reached vein.

Galena; sphalerite; pyrite; purple fluorite;
quartz; Ankerite on Hudeshope Level
dumps, 2100' NW of the farm, @ 1188' OD.

1"84

NY 845 372

LODGESIKE MINE, Stanhope, Durham.

[NOT = LODGE SIKE M., Middleton-in-Teesdale]

See also GRAVELHEADS GREEN OPENCUT.

KCD (1948), 233. Pb. On W of Ireshope Burn.Main levels: Hemsleys, Wham, & Lodgesike L.
849 3715 845 372A little galena; siderite; limonite;
purple & almost colourless fluorite.

1"84

NY 934 428

LOW FULWOOD MINE, Rookhope, Stanhope, Durham

See also FULLWOOD MINE

KCD (1948), 228, Fe, Pb. On Ireshopeburn
Vein, W of Rookhope village - where flats in
gt Limestone gave 40' width of limonite
over 800' length.

OS 6" map - shown at 934 428

1" 84

NY 95 275

LOW SKEARS MINE, Middleton-in-Teesdale, Durham

See also HIGH SKEARS MINE

KCD (1948), 305. Pb. S of COLD BERRY M [QV]
Two adits, running WNW cut across a
complex of small veins: ~~the~~ Firestone
L, @ 1232' OD from 900' ESE of Hardberry House
straight for 2900' to a vein. Skears
Lower Level, from 2600' ESE of Hardberry Ho.
is 4625' long. galena; purple and
amber fluorite; quartz; siderite; limonite.

NZ 29 491?
Durham.

LUMLEY 6TH. PIT

KCD (1948), 336. Ba. Coal mine. Fault
mineralised with baryte found in 1941.
Minor pyrite. "withenite shows up in analyses"

Cockfield: NZ 1224

LUFTON HILL PIT, Cockfield, Durham.

of "LUNTON HILL COAL PITS"

TM Hall (1868) pbl. Aragonite in Coal measures
with Trap dykes.

Cockfield: N2 1224

LUNTON HILL COAL PITS,

Dur.

cf "LUFTON HILL PIT"

GEL (1858). 6 mls SW of Cockfield. Aragonite

W Phillips (1823) In workings of an old coal mine called
LUNTON HILL-PIT ca 6 ml SW of Cockfield,
aragonite abundant, found depending
from the roof of slate-clay & accomp. by
tubular calcareous stalactites

1" 84

NY 965 299

MANORGILL MINE Middleton-in-Teesdale, Dur.

See also LODGESIKE M; WIREGILL M.

DSI" map shows "Manorgill Hushes" at above ref.

KCD (1948), 69, 301. Pb On Lodgesike - Sharnberry vein.

Manorgill Low L. from gr Eggleshope, at 1200-1230' OD; Middle L @ 1400' OD; ~~High L.~~

Lodgesike High L is driven through to Manorgill. Also a X-cut from Hudeshope at Marlbeck Mine.

galena; quartz; purple fluorite; minor sphalerite & pyrite.RSN (1997) 30, 15. goethite with plenty of cerussite & a little anglesite.

Q5N('95) 27

The Manorgill workings were visited first. The mineralisation is mainly in sandstone, but the dumps are big and only the more common primary minerals were found in quantity - fluorite, quartz, ankerite, galena, sphalerite, with a little chalcopyrite. The only supergenes were a little cerussite, goethite and linarite.

MARKIEL VEIN, Stanhope, Durham.

See MERKIEL V. & WHITFIELD BROW

MARLBECK MINE, Middleton-in-Teesdale, Dur.

See also LODGESIKE M

KCD (1948), 306. Pb. S of LODGESIKE M.
on E side of Hudeshope. A group of veins
Marlbeck level, @ 1069' OD, with x-cut to
Lodgesike V. galena; quartz; limonite,
subordinate purple fluorite

1" 78

MARSDON HILL

NZ 39 64 (?)

Dur. 40 64

GeL (1858)

Near Sunderland.

^{pale}
A₁ brownish-yellow

flexible schistose dolomite

OS jazz: "Marsden" NZ 40 64

MERKIEL ~~MARK~~ Vein, Stanhope, Durham.

See also WHITFIELD BROW.

KCD (1948), 97, 118

~~NOT AN~~ *indirect*

Chalcopryite. An emanative centre?

[? In centre of area??]

97, 118, 260 - MARKIEL VEIN - worked in
Whitfield Brow [qv]

1" 84

NY 821 432

MIDDLEGROVE VEIN, Stanhope, Durham

T. Bridges & B. Young (1998) J. Russ Soc.

Leadhillite, clusters of hex. plates w.
galena & "limonite" from workings
on MIDDLEGROVE V., Killhope, at 8218 4325.

D. Green et al (2005) J. Russ Soc. 8 [2], 66-70.

MIDDLEG. HUSH. - a flat at 8218 4325 exposed
in 1990's, with galena, fluor, ankerite-quartz
cerussite. Supergene galena on ankerite

Hushes pre-working by PARK LEVEL
[PARK MINE]

(SHEILD)

1" 84

NY 890 405

MIDDLEHOPE MINES Stanhope, Durham.
See also WHITE'S 'LEVEL'; YEARNCLEUGH VEINS

KCD (1948), 227, 251, 228-9 (Pb, Fe, F.) On
Lodgefield (=Ireshopeburn) vein, but here called
Richard's Vein. Some of the NE part
worked for iron ore after closure of main
mine. Vein continues NE as Fulwood &
Fulwood N veins. N vein gave lead ore in
gangue of quartz, limonite & fluorite. On the
Old Fall Vein = Scarsike Vein here, oneshoot 4000' long
worked. Main entrance was Governor & Company's Level,
from the left bank of the burn, $1\frac{1}{2}$ ml N of Westgate,

at 1174' OD. Veins complex, with fluorite, quartz,
ankerite, siderite, galena; also flats, rich in
siderite.

On Sedling Vein, main adit at 1450' OD, at least
4200' long & prob. connected by a rise, with High
Sedling level.

E of Middlehope mine, Douk's
level worked N branch of vein - Longsike vein.

Fluorite abundant on shaft heaps.

p 238 Whites Level - qv.

OS maps. MIDDLEHOPE M to N at 904 401

MIDDLEHOPE SHEILD M ~~at~~ nr. 905 396-8

DOUK'S LEV @ 902 402. DAWSON'S V. LEV, 907 396
LEVEL @ 906 398 prob = WHITE'S (qv; separ. card)

MIDDLEHOPE HEAD GROOVE, Stanhope, Dur.

See YEARNCLEUGH VEINS

MIDDLETON Q'y, Newbiggin, Dur.

See FORCE GARTH Q'y (=).

MILBURNS HUSH, Stanhope, Dur.

See BURNHOPE VEINS

1" 84

NY 9244 4301

MILL LEVEL, Rookhope, Durham

T. Bridges & B. Young (1998) J. Russ S. 7 3-14

"Hydrated Fe oxides" mostly "limonite"
(goethite): up to 20 cm of soft earthy
material "brown haematite", accumulated
in 30 years. (Hill & Durham, 1968, Proc Yorks GS)

N2 3958 4058 mos jazz

MONKWEARMOUTH COLL., Durham.

KCD (1948) 331. galena, low in Ag (Smythe, 1923)

NZ 15 or 25

MORRISON NORTH PIT, Stanley, Durham.

See SOUTH MOOR

AR, MM 23 liv. (Proc., Nov 1932) Exhibit. Witherite

Dunham. N. Penn., I (1948) 332. On South Moor Witherite Vein.

Nearly pure witherite, insignif. amts other mins. — traces of
baryte; calcite; galena; pyrite Morr. N. Pit. is nearly

2 miles from Witherite Shaft. Sections: p 333, 335
galena is relatively Ag-rich.

KCD N-F(1959)137 Witherite in coal measures —
SOUTH MOOR COLLIERY, — operations are to
be suspended as no new deposits found
~~section.~~

1"84

NY 7875 316

MUSES LEVEL, Forest, Durham.

See also DUBBYSIKE MINE, LEVEL, & HUSH.

1"84

NY 7885 352

NEAR QUARRY, Forest, Durham.

See also FAR QUARRY

NEW BRANCEPETH COLLIERYDurham.

Dunham. N. Penn I (1948) 337: Shafts S of R. Deerness, immed.
W of Ushaw Moor Stn. White platy baryte with
xls mainly perpendic. to vein walls. Witherite adjacent
to walls. V small amts. blende in tiny veinlets.
V. minor amts. galena; chalcopryite; ullmanite; alstonite

J. Spencer MM 15 302 (1910): Witherite, ullmanite, alstonite

MM 28 45 (1947): Excursion

MM 28 173 (1947): Ullmanite - chem. anal.

KCD, N-F (1959), 139. Baryte. Closed 1955.

B. Young (1985) PYGS 45 199-206 Major
witherrite; alstonite, rare - a very few
specimens, early this century, from the
barite vein. No ref. found to its having
been found since then; now long closed.

T. Bridges & B. Young (1998) J.R.S. Calcrete "flowstone"
(Smythe, 1926 p 144). Epsomite (Smythe, 1933).
Melanterite, bright green fibr. xline encrusting
pyrite-rich shale (Spencer, 1910, M.M., 302-311)

1"84 Around NY 99₃ 38₃

NEWLANDSIDE LIMEST. QUARRY, Stanhope, Dur

See also COVES MINE

KCD(1948) 258 A vein with chalcedony, a
poor in Pb, Fe etc., exposed recently in
W section of this quarry, $\frac{3}{4}$ ml SSW of
Stanhope.

Two veins intersect near the
main face of the E sections of the
quarry, 1500' E of the Stanhope-Middleton
road. One worked from shaft. In
the quarry is a broad belt of alteration,

but the veins are v. narrow. A little
galena occurs in a flat
min.

Another vein cuts quarry face
2800' ESE of the Stanh-Middlet. road
forming a belt of altered l'st 100'
wide with much silicification.
A little fluorite & galena in the
vein, tried unsucc. from a level.

1" 89

Cent on NZ 2724

NEWTON AYCLIFFE, Co. Durham.

(Not on old maps or in my OS gazz).

Russ Soc Newsl 21

The party then moved on to Old Town's Quarry near Newton Aycliffe. After a pleasant lunch in the sun the mineralisation was inspected. Pockets in rock, presumably resulting from dolomitisation, are partly infilled with the usual minerals mentioned above. The main interest is the fluorite which takes a "reticulated" form and is very attractive. The orientation of the crystals in the cavities is perfect, even when there is no apparent connection between groups. Good material was collected by everyone but only after expenditure of considerable energy.

→ Calcite, baryte, fluorite,
galena (from Raistrick)
was "above"

→ Actually parallel growth.
(c'less.)

1" 84

NY 93 41

NORTH GATE LEVEL, Stanhope, Dur.

See HEIGHTS MINES

KCD (1948), 241, Pb, Fe. To ~~the~~ Heights N. Vein
NE of HEIGHTS MINE (qv); is a X-cut adit,
driven 1861-7 from Sunderland Cleugh.
Flats up to 15' wide, poor in galena, gave
some iron ore. To SW workings joined
up with those from HEIGHTS MINE, to
NE extended 1500' from the level head.

1" 84 Around NY 937 485

NOOKTON BURN, Hunstanworth, Durham
= KNUCKTON BURN

KCD (1948) 268 Linnbank Vein crosses

Knuckton Burn 3200' SW of its confluence
with Belton Burn — here is an open cut
with traces galena & sphalerite
without matrix minerals. Also a
level.

1"84 NY 88 38(9?)

OLD FALL MINE & LEVEL, St John's Chapel, ^{Stanhope} Dur.
See also LEVELGATE LEVEL

KCD (1948), 228-9, 109. Pb, Fe. On the Old Fall-
Scarsike (Middlehope) - Boltsburn vein system. N of
the Wear Pb mine. Old Fall level at 1010' OD starts
as x-cut near Middle Black Dene, reaching vein
530' from portal & following on it for 2500'.
Watson, Trans. Weardale Nat. Field Club, 157 (1900), reports
fluorite with qtz & calcite xls in a stalagmite
covering fallen timber - but the fluor may
have been mechanically incorporated into the
stalagmite, rather than secondary.

T. Bridges & B. Young (1998) JRS. NY 8760 3865

Fluorite within stal deposit on fallen
timber may be 17 frags not 27.

1" 84

NY

82 43

OLD MOSS VEIN, Stanhope, Dur.

See also KILLHOPE M.

OLD MOSS VEIN, KILLHOPEHEAD [NY 8200 4334]

The Great Limestone in the bed and banks of Killhope Burn is cut by the old Moss Vein, one of the smaller veins formerly worked underground from Park Level. The vein is well exposed carrying fresh galena, some sphalerite, siderite and purple fluorite. At low water levels the Frosterley Band, a bed rich in corals, is clearly visible in the bed of the stream a few metres downstream from the vein outcrop.

NB This site is scheduled as a geological SSSI. Please do not hammer the exposure or attempt to collect specimens from it.

B. Young (1988)

PARK BURN LEVEL, Stanhope, Durham.

See HEIGHTS MINES

KCD (1948), 241, 255. Pb, F.

1"84

NY 826431

PARK MINE, Stanhope, Dur.

See KILLHOPE MINE

[= PARK LEVEL]

OS 6" map shows "Park Lead Mine" at above
ref., near Park Level.

GR, GS 8/65 On SW side of Killhope Burn, big
ruins, giant waterwheel. dumps along burn
Much well-xld but weathered sphalerite
with ironstone, siderite, chalcocypite, pyrite
galena, quartz, fluorite, blue, purple & occas.
yellow. Thin coatings ? hydrozincite

PELTON COLLIERY, Chester-le-Street, Durham.

TM Hall (1868) p 60. Hatchettine in Coal measures

PETERS HUSH, Stanhope, Durham

See WELLHEADS HUSH

1"84

NY 90 31

PIKE LAW, Newbiggin, Durham

See also FLUSHIER MERE MINE

KCD(1948) 294-5. Vein complex on Pike Law between Wester & Flushiemere Becks, with purple fluorite, galena, quartz, & aragonite. Baryte only in the highest workings of one of the veins (Westerhead V). A number of levels driven. Flushiemere mine, to the S worked some of the complex

Pike Law Area, Newbiggin, Co. Durham
[Grid Ref: NY 900 314] - 14 August 1994
NB, Leader Trevor Bridges RSN(195)26

The sun shines on the righteous, so it must have been a very righteous group that turned up for this meeting. The site is now an SSSI, so we contented ourselves with a good look at the *in situ* mineralisation (alteration of the Great Limestone wall rock). It is one of the few places where fluorite is well exposed at the surface. A poke around the dumps produced small pieces of most of the usual minerals including anglesite and hemimorphite. We then moved down the hush to the stream to have a look at the minor dumps upstream from the main area of workings. These produced nothing more than fluorite, goethite and minor cerussite. However, at this point the whole emphasis of the meeting changed (for the better?). In the bed of the stream were sandstone blocks crammed full of spiriferid casts (brachiopod fossils to the uninitiated). One large block, about 1ft by 3ft, after cleaning up by flaking specimens off both sides, was nobly carried up the hillside by Steve and Arthur for the Hancock Museum, together with a large block containing a massive coral colony.

T Bridges & B Young (1998) JRS.

Hemimorphite, rad. xls, often
on fluorite, at WEST END
HUSHES (NY 9000 3138)

Bindheimite (BM, XRD) from
902 314, pale yell powdery
w. ox. galena & cerussite.

Anglesite, well developed xls;
blades → 15 mm(!) 902 314

Mamill-xl goethite, from
LEONARD'S HUSH, 906 315

1"84 NZ 053 336

PIKESTONE MINE, Wolsingham, Durham.

KCD (1948), 262. Ba, Fe, Pb. Firestone Vein
(ENE) worked at this mine, $2\frac{3}{4}$ ml SSW of
Wolsingham. galena, baryte, purple
fluorite, in Millstone grit.

T. Bridges & B. Young (1998) Pyromorphite,
(NZ 0535 336)

POPPET LEVEL, Stanhope, Dur
See BURN HOPE VEINS

1" ^(NZ)
PRIOR'S CLOSE opencast, West Rainton(?) Dur. NZ 30 48 (?)

B. Young (1978) RSN 32 23 Stripping of overburden
at PRIOR'S CLOSE NORTH opencast coal site
revealed fossil logs with calcite-ised structures
In some faults blaut. x'd spear-shaped
marcasite & e intergrowths of galena
e brown sphalerite.

1" OS 85 Has "PRIOR'S CLOSE" in coalfield at NZ 303 481
in West Rainton parish.

1" 84

NY

83

42

PUDDINGTHORN VEIN, Stanhope, Durham

See also COWHORSE MINE

KCD (1948), 216. Level at 1506' OD opposite Cowhorse
Level, tested small vein. — a little
galena in fluorite

QUEENSBERRY MINE, Stanhope, Durham.

KCD (1948), 219. Fe. In an area 500-2500' N
of Cowshill, Breckonsike, Burtree Pasture,
Coptcleugh, & Sedling Veins converge. The Gt
Limestone converted to big limonite deposit
at surface. Iron worked here since Elizabethan
times, exhausted mid 19th Cent as the Queensberry
Ironstone workings, now overgrown. No record
of galena. } The Breckonsike Pb-Fluorite orebody
begins ca 1 mi N of Cowshill. Coarse purple
& green fluorite abundant on the heaps,

with quartz, carbonates, galena, sphalerite.
The Lower Felltop L'st, beneath the High Gait
is converted into ankerite & siderite in
which spherulitic masses of sphalerite
occur.

B. Young (1995). Russ. Soc. N' letter 26, 35-36

Ironstone workings at Cowshill at
NY 856 411. Green/purple zoned
fluorite xls inside dumps but only
purple when exposed - so on exposure
to light, green $\rightarrow$ purple. "QUEENSBURY"

T Bridges & B Young (1998) JRS. Goeth "Limon" ψ 's

1" 84 ~~NY~~ NY 936-944, 303

RACKETGILL VEIN, Middleton-in-Teesdale, Dur

OS 6" map shows E-W "Racketgill Hushes" at
above map ref.

KCD(1948) 307: E-W vein discov. by hushing,
1 ml. N of Coldberry M, 2800' N of Manorgill
N. vein. Tested by levels W of Hudeshope
e in Parkin Hush; E of the ~~back~~ beck
Hudeshope level continued 800' beyond
Manorgill N vein to test the vein.
All trials unsuccessful.

1185
RAISBY Q.

NZ 34 35

RAISBY HILL DOLOMITE QUARRY, Coxhoe, Dur.
(I)

See also NEWTON AYCLIFFE; COXHOE
KCD (1948), 331. Irregular fissures in
the dolomite quarry, contain
chalcopryite, malachite, limonite,
in Permian l'st overlying Coal meas.
(Smythe, 1924, 7) Native copper is said
to have been found here.

pro

Russ. Soc. Newsl. 21

Sunday 29th April 1990 The Permian.

A party of about 30 congregated on a glorious spring morning. Tim led the way to the old railway cutting at Raisby where the geology and mineralogy of the area were introduced. The exposure is in the Raisby Formation dolomites and limestones. This is mineralised at several localities in the area, usually associated with ancient dunal ridges. However the usual minerals are calcite, baryte, fluorite and galena. Copper minerals are fairly rare but predominate at Raisby. Respectable malachite and azurite were soon found and Neil Madden turned up what seemed to be a small brecciated vein feature which contained rich chalcocite (presumed) and malachite with minor cuprite and native copper.

T. Bridges & B Young (1998) JRS
Dunhams nat. cu; calcite,
chalcocypite, malachite.
at 342 302.
In old railway cutting

at 350 349 immed S of the
Qy, Tiny flakes nat copper
~~scattered~~, w. cuprite,
malachite, azurite some
chalcocite in breccia-
limestone
sp. l. f. l. l. s. → 3 mm
-10 mm

→ "chalcocite" may
be djurlevite. - see
card (II)

RAISBY Q, Coxhoe, Dur. (II).

at 3502
3492

B. Young (2001) J. Russ. Soc. 7 [2], 75-78.

Descrip, map, geol. etc.

Chl pyr, mal, "limonite".

In old rly cutting
→ Malachite, mostly

compact, some rad needs to 4mm in
stringers cementing yellow-buff dolom l'st.
Some ~~rocks~~ have ~~grey~~ bright grey silvery
cores of djurite (XRD) → 5mm.

Cuprite, traces nat copper. White calcite

To the W for ~15m also azurite 1/2 to 2mm in
spher aggs in angular cavities & loose
in soil.

RAKE, EAST Middleton-in-Teesdale, Dur
See EAST RAKE MINE

1"84

NY 948 472

RAMSHAW MINE, Hunstanworth, Dur.

See also JEFFREYS M.

KCD (1948), 271. Pb. NE ~~SW~~ of Bolts Burn,
opposite Jeffreys M. purple fluorite,
quartz, galena, traces sphalerite, ankeritic
limestone. Now flooded

1"84

NY 928 432

REDBURN MINE, Rookhope, Durham.

NEW (mid 1960's) F mine, run by ICI. Massive fluorspar vein (no crystals), irregular in yield, according to foreman.

TGPZ5/72 says that a fine specimen of stalactitic native silver was picked off the conveyor belt by a miner; also that good fluorite xls do occur.

Spec. ex H. Corke (7/74). Cerussite, vg. bundle of needles, said to come from one large-ish

cavity, found by a miner who
removed a large mass of cerussite
which fell apart from its own weight.

T. Bridggs & B. Young (1998) JRS. Beaut. "jackstraw"

cerussite xls.

K.C. Dunham (1990). Bismuthinite.

1184

NY 800 335 - 806 336

REDDYCOMB(E)MINE, Forest & Frith, Durham.

See also WILLYHOLE M.

KCD (1948), 290. Pb, Zn. Reddycomb V lies
just S of the sike. Worked from a
level with a x-cut to Willyhole V.
900' to the S. Smithsonite; galena;
baryte; sphalerite on dump. Also
lower adib with sphalerite; quartz;
baryte; galena.

B-Young, spec → RSWB 6/87 (87-75) "Greenockite,
thickish yellow coating on sphalerite

B. Young PYGS (1987) 46 275-8. Greenockite
(XRD) on sphalerite with 24+31 ppm Cd.
partly oxidized to smithsonite

T Bridges & B Young (1998) JRS. = WILLYHOLE M. 8020 3355
greenockite (KCD, 1948) [But NOT so!], Smithsonite
("dry-bone") & ψ 's after small "nail-head" calcite
xls.

RED GILL SIKE VEIN, Forester Firth, Durham

KCD (1948) 293 Vein proved by levels; at
head of Red Gill Sike, $\frac{1}{2}$ ml NE of the
Langdon Beck Hotel. Coarse iron-stained
baryte on dumps

1" 84

NY 797361

REDGLEAM QUARRY, Forest, Durham.

1"84 NY 92 29

RED GROOVES MINE, ~~D~~Newbiggin, Durham.
See also COLD BERRY MINE

KCD(1948)(Pb) 60, 69, 300. On Lodgesike-
Manorgill vein. Worked opencast in
Coldberry Gutter, a spectacular hush.
Red Grooves Level at head of Laddie Gill,
reaches vein 750' SE of portal (in shale
above gt l'st). Workings continue 2750' E
beneath the gutter. On dumps, purple
fluorite, siderite, ankerite, quartz.

1"84

NY 98 40

RED VEIN LEVEL, Stanhope, Durham

See also HOPE LEVEL

KCD (1948) 249 Driven on Red Vein, from
Stanhope Burn at 800-810'OD. Worked
Veins e flat E of The Stanhope-
Blanchland road. Lead ore, ironstone.

RIGG MINES Stanhope, Durham.KCD (1948), 254-5. Pb/F

WEST RIGG OPENCUT, E of the Westgate-Rookhope mountain road, directly opposite SLITT PASTURE OPENCUT, and is at 911392, on slitt vein. Much limonite (oxidised siderite), some galena, a little fluorite. Flats at High Flat horizon extend 150-200' - vein itself had much quartz, left as pillar in the opencut. Big Fe producer.

To the E, RIGG MINE, after 400' of apparently unproductive ground. At Rigg mine, ironstone flats worked in the gt. Limestone. Lower

horizons worked from Sidder's Level starting
950' NNE of Warden Hill [ie at 917 387], & reaches
vein as a X-cut 1,100' long. (level blocked at
first shaft, 380' from portal) Purple fluorite
on dump

1"84

NY 911 427

RISPEY MINE Stanhope, Durham

KCD (1948), 223. Fe. An old lead mine,
but more important as big producer
of siderite. Shaft on S side of the Burn
1½ ml W of Rookhope. Some limonite.
Rispey Vein continues E for ca 1 ml,
to Red Burn (See REDBURN MINE), marked by
old Pb shafts. Some dumps have a
little fluorite. Rispeysike levels & Mill
level in this area

1" 84

NZ 01 or 02 37 00 37
-38

ROGERLEY QUARRY, Stanhope, Durh.

See also HOLYWELL MINE

Ike Wilson/77 Priv Comm

Lindsey Greenbanks

has been working Rogerley Quarry for
fluorite - green, blue; some nodular
quartz. 21/9/77. Visited recently. Q'y is at 008
380 →. Many clayey holes. - coll green fluor partly
coated w. calcite

KCD (1948) 259

A N branch of the SLITT

("HOLYWELL") VEIN may be seen in Rogerley
Quarry, also the main vein. Worked at

nearby HOLYWELL MINE [g.v.]

Min Record (2000) 31, [17, 100-103. W. Wilson.

Hist., photos. Fluorite

ROGER WELL HUSH, Stanhope, Durham. ?
 See also CANADA SH.

KCD (1948) 250. On E end of Red Keir, W of
 Shillhope Burn. Quartz and coarse
 purple fluorite abundant along the
 Hush, (In Firestone e Low Grit sill)

1" 84

NY 9376 4279

ROOKHOPE BOREHOLE, Rookhope, Dur.B. Young (1988)

ROOKHOPE BOREHOLE, ROOKHOPE [NY 9376 4279]

The presence of granite beneath the Carboniferous rocks of the northern Pennines was first suggested by Dunham (1934) to explain the zonal distribution of minerals within the deposits of the orefield. Later gravity work supported this interpretation which was tested by the drilling of the Rookhope Borehole in 1960-61 (Dunham et al. 1965). The borehole started in the Great Limestone near the intersection of two important veins, the NE trending Boltsburn Vein and the WNW trending Red Vein. Both of these veins and several other mineralised intersections were recognised in the borehole core: mineralisation continued in the granite. Granite, with a weathered top, was reached at 390 m and drilling was continued in granite to the bottom of the hole at 808 m. The granite clearly pre-dates the Carboniferous sediments. Rb-Sr and K-Ar determinations on micas have given ages of between 361 ± 7 and 392 ± 6 ma: whole rock determinations of $^{87}\text{Rb}/^{86}\text{Sr}$ and $^{87}\text{Sr}/^{86}\text{Sr}$ suggest an age of 410 ± 10 ma for crystallisation. The Weardale Granite is now believed to have acted as a heat source driving a convective circulation of mineralising fluids through the Alston Block.

good molybdenite x/s

ROOKHOPE HEAD MINE, Stanhope, Durham.KCD (1948), 245, 243. Pb, Fe, F. FRAZER'S

HUSHES, around 88, 445, originally for galena, then worked for fluorite, but mainly for ironstone — a vast flat was worked opencast. W of the ironstone workings, surface cut in 1939-40, showing purple & green fluorite, with some galena & sphalerite. Lower workings from Fawside level, at 1370' 00. Another recent trial as level from S bank of Rookhope Burn, 2850'

ENE of Corbetmea Shaft, reached vein 500' from portal, with fluorite, quartz, galena, sphalerite, but not promising. Aband. 1944

B. Young Priv Comm (7/88) Now working combined with GROVE RAKE M.

BMSN (2000) 55, 10. D. Green → BMS Coll., 2170:

Cerussite, GREENCLOUGH DRIFT, FRAZER'S HUSHES

B. Young (2000) Rus. Soc. N° let. 36, 27-28 Closure of GROVE RAKE & FRAZER'S HUSH. v. purple fluor, gal, sphal, from F's HUSH.

1" 84

NY 868-9 374
Stanhope

ROWANTREE MINE, St John's Chapel, A Durham
See also CARRICKS MINE

OS 6" map shows 2 old levels of Rowantree Sike Mine
KCD (1948), ~~237~~ 237: Pb, Fe. E of Carricks mine.
Flats, no longer accessible.

RYHOPE COLL., Sunderland, Durham.

KCD(1948) 331. 3ml S of Sunderland.

galena at depth of 2190' ~~below~~ beneath
Warden Law. (JA Smythe, 1923 [1922 or 1924?])
Barite (Smythe, 1922)

CHAPEL

NY 88 37

ST. JOHN'S A WEARDALE, Durham.

TM Hall (1868) p61. Silver-lead mines in Mill. pit.
Calcite; cerussite; chalybite; fluorite; limnrite;
malasite; minium; quartz var rock xl.
—"ST. JOHN'S, Weardale, Durr."

~~ST JOHN'S CHAPEL,~~

SALLY GRAIN LEVEL, Stanhope, Dur
See BURNHOPE VEINS

1" 84

NY 970 471

SANDYFORD MINE, Edmondbyers, Durham

OS 6" map shows "Sandyford lead mine" at
970 471

KCD (1948) 273: A shaft sunk near the
confluence of Sandyford & Burn Hope Burns
proved a vein, ca $1\frac{1}{2}'$ wide, of amber
and purple fluorite, galena, sphalerite
& strings of partly oxidised siderite.

SCARSIKE VEINS Stanhope, Dur.

See TAILRACE WATER LEVEL.

1184 NY 798 375

SCRAITH HEAD MINE, Stanhope, Durham.

See also LODGE GILL M.

KCD (1948) 218 Pb Ancient mine, worked from
levels. Purple fluorite; quartz; siderite;
calcite; limonite; lead ore.

SEDFIELD,Durham.

KCD (1948), 331

In boreholes W & N of

Sedgefield: fluorite, baryte, galena,
sphalerite & pyrite, replacing the
Lr. Magnes. L'st. (Fowler, 1943).

1"84

NY 860

410 to
880 404

SEDLING & ^{MINE} VEIN, Stanhope, Durham. (I)

See also HIGH SEDLING MINE.

KCD N-F (1959) 133: S of, & 11th to, Red Vein. worked until
1948. Fluorite; galena.

KCD (1948) 97, 21, 78, 84, 89, 250, 343 (F, Pb)
84: galena, 89: chalcopryte, marcasite,
siderite, fluorite.
250. Until recently the principal fluorite
producer of the district. A number of
levels, highest at 1230' OD which
communicates with Buntree Pasture Water level,
portal near Crookhill Bridge. Vein filled

with pale massive fluorite, with small bands of sulphides 11R to the walls. Some quartz. Sulphides: galena, with minor sphalerite, marcasite, chalcopysite.

RLamb. Pers Comm 16/10/96. "Enclosed..." coronadite from SEDLING MINE at NY 864 408, ident by B. Young; black massive & botry w. minor cerussite. "All samples XRD'd by the BGS were coronadite".

RSN (1997) 30 19. Coronadite collected.

T. Bridges & B. Young (1998) JRS. Covellite
NY 858 400

SEDLING M., V., Stanhope, Durham (II)

replacing galena at HORSE LEVEL horizon
(KC Dunkham, 1932; PhD Thesis, U of Dur). The
Coronadite of Young et al (1996), abundant
in shallow workings on the SEDLING V., at
8698 406. Goethite "yellow ochre" at HIGH S.
870 408. Thaumasite HIGH S.M.

1"84

NZ 02 30
013 308SHARNBERRY MINE, ~~the~~ South Bedburn, DurhamKCD (1959) NF. p. 135. Being reopened. Fluorite

KCD (1948) 310 Pb, F. Flake Brig & East Rake Veins unite to form Sharnberry V. worked at Sharnberry M, in Sharnberry Gill, 1 mi E of Flake Bridge on the Stanhope-Middleton Rd. Main entrance Sh. Low Level, at 1210' OD, a X-cut driven 2900' NW to vein. A complex of workings, with galena, in fluorite & quartz.

To the E, the S branch of Sharnberry V exposed in a hush @ head of South Grain

Beck, with X-cut adit at 1220' & 1270' OD.

Cerussite, with galena, purple fluorite, quartz
on dumps.

RSN(1999) 35, 17. Visited river side dumps
only. Usual 19 min's, ~~was~~ very little
supergenes

1" 84

NY

890

387

SIDEHEAD LIMESTONE QUARRY, Stanhope, Dur.

KCD (1948) 238 Quarry $\frac{1}{2}$ ml NNE of St. Johns
Chapel Stn. 12-14' vein of limonite
found in 1942

SIDER'S LEVEL, Westgate, Stanhope, Durham

See RIGG MINE

SIKEHEAD MINE Hunstanworth, Durham.
See also WHITEHEAPS M.

KCD (1948), 268. Pb, F. To the E of Whiteheaps Mine. Coarse purple fluorite, with massive quartz, and small bands galena; some chalcedony, small amounts of sphalerite & marcasite, "rare carbonates" [i.e. carbonates rare, presumably].

RSWB, 11/70; I Being worked from Whiteheaps mine. Fluorite - grey-purple xls.; calcite; galena; quartz; chalcedony; aragonite, needles

and ψ -hex sheaves (1.5 cm $\times$ 0.5 cm).

1"84

NY 879 394

SILVER DIKES LEVEL, Stanhope, Dur.

KCD (1948), 252. Pb On Slit V. Level
in shale @ 1477' OD reaches Slit V. E of its
intersection with Black Dene V.

SKEARS MINES, Middleton-in-Teesdale, Durham.

See HIGH, and LOW SKEARS MINES.
KCD (1948) 29, 68. Pb.

SLITT MINE, Stanhope, Durham.

See also SLITT PASTURE, SLIT W. LEVEL.

KCD (1948), 254, 53, 78, 83, 97, 118. Pb, Fe, F. On slitt vein.

Main shaft by Middlehope Burn, $\frac{3}{4}$ mi N of Westgate, sunk 585'. Spring Bank level (drainage) starts at 950' 00, 2700' S of the shaft. Extensive overshoot, many stopes. Fluorite, siderite, quartz, ankerite, galena, marcasite, a little sphalerite. p 97. chalcocite

OS Maps show HIGH SLITT MINE, around 897 3935, MIDDLE SLIT LEVEL, near 903 393, LOW SLIT M, at 905 392

T Bridges & B Young (1998) JRS.

"Limonite" worked.

Goethite var

SLITT WEST LEVEL, Stanhope, Durham

See also SLITT MINE, etc.

KCD (1948), 254. Pb. An ironstone level driven onto Slitt vein on the W side of Middlehope [Burn]. gives access to a big belt of flats connected with Levelgate level.

MacMillan (Gateshead). Specs shown to R/WB
 11/70 Haem: Spec on kidney ^{with qtz.} pyrite, big xls.
 (BOPH) (vvv like W Cumb). Calcite.

1" 84

Around 909 393 (NY)

SLITT PASTURE MINE, Stanhope, Durham.

See also SLITT MINE, etc. WEST RIGG MINE

KCD(1948), 254. Pb/Fe. Big opencut W
of the Westgate-Rookhope mountain road, opp. WEST
RIGG opencut. Big flats worked in opencut,
rich in limonite, with a little galena &
fluorite.

1" 84

NY 825 382- 826 379

SMITH'S HUSH, Stanhope, Durham

See also BURNHOPE VEINS; EM'S HUSH

OS 6" & 2½" maps show "Smith's Hush" at above
reference, also "Old Level (Lead)" at the
foot of the hush, by Lang Tare Burn

SNAISGILL MINE, Middleton-in-Teesdale, Durham

KCD (1948), 307. Ba, Pb. An adit SSE
from Snaisgill cut Holm Head Vein 1050'
from portal, then SE to reach High Dike
Vein - with flab, with baryte, a little
amber fluorite, & galena.

1" 84

NY 83 43

SNODBERRY VEIN, Stanhope, Durham

KCD (1948)²¹⁵; Small NE vein, believed to run
on S side of Snodberry Clough,
crossing Killhope Burn 1300' W of Gold
Hill. Iron ore said to have
come from a flat, and limonite
recently obtained between the road
& the burn 650' NW of Snodberry bridge.

SOUTH LANGTAE HEAD VEIN, Forest & Frith, Dur.

See also ASHGILLHEAD MINE, CADGER WELL LEVEL

KCD (1948), 288. Continuation of Langtae Head vein SW into Teesdale. Runs SW down S. Langtae Sike - old shaft. Purple fluorite, galena, quartz, aragonite. Prob. cut by Ashgillhead Level & Cadger Well Level.

NZ 175 508

SOUTH MOOR {COLLY and
VEIN, Stanley, Durham.
See MORRISON NORTH PIT

KCD N-F (1959) 137. Witherite, S. MOOR COLLY.

B. Young (1985) PYGS 45 199-206. SOUTH MOOR
COLLY, at 175 508, major witherrite

T Bridges & B. Young (1998) JRS. Supergene baryte
(alt. prod of witherrite). Wither-indic. habit
baryte.

SPARKE'S PASTURE LEVEL, Stanhope, Dur.

See WEARHEAD VEIN

STANDALONE FARM.

Dur.

See also LANCHESTER

KCD N-F (1959), 139.

Baryte, in Coal Measures, outcrops
at Standalone Farm on the Deerness Valley
fault belt.

1"84 NY 9865 4035
413

STANHOPE BURN MINE, Stanhope, Durham. (I)

MM 28 45 (1947). Excursion. Fluorite mine.

Dun. F (1952), 34. Entrance on W bank of Burn 1 mi NNW of Stanhope.

Old lead mine. Fluorite; a few coarse bands quartz; some chalcedony & galena. "Ferriferous carbonates" present.

Levels: Shield Hurst Level (828 ft OD); Widley L. (750 ft OD); the bottom level (640 ft OD). on Red Vein.

Veins: Red Vein. Flats present.

KCD N-F (1959) 133. On Red Vein. Being worked for fluorite.

PTO

RSWB et al, II, 114 (16/8/62). "Fluorspar Ltd" at 987 413
Fluorite (xls rare), chalcedony.

KCD(1948) 24, 99, 109, 247, 343 (F, Fe, Pb)
Has a long history as a lead mine, at
least 18th Cent. ✓ On Red Vein, beyond
Stotfield Burn mine. Levels: Shield/
Hurst level (828'OD), Widley level (750'OD)
Flats worked from Shield/Hurst level in
early 19th Cent. Has reopened twice
[at least] this century, as a fluorite
mine. Vein of massive fluorite,
white with patches tinted purple &
green, also quartz, chalcedony.

STANHOPEBURN MINE, Stanhope, Durham
(II)

e Fe carbonates [ankerite, siderite?]. Ba minerals absent. Scattered galena, small amount sphalerite & iron sulphides [pyrite, marcasite?], traces copper sulphides [chalcopyrite?]. In the oxidation zone, down to 250-300' from surface, limonite & at one time pockets of well-crystallised cerussite were found

T Bridges & B Young (1998) JRS. Beaut. "jackstraw"
cerussite. Prob = the "BURNE MINE" [q.v.]
of Rashleigh (1797). NY 9867 4130

1"84

NY 9443 424

STOTFIELD BURN MINE, Rookhope, Stanhope, Durham.KCD NF (1959) 132: On Red Kim. Working. Fluorite; galenaRSWB et al, II, 115 (17/8/62), 117-119 (18/8/62) Working. Taken underground.

Dumps: Fluorite, purple, some green (xls. rare); galena, cerussite, blende, chalcopryite, pyrite, quartz, calcite, ~~including~~ powdery white coatings of quartz (1R), looking like hydrozincite!

15-fm level. Superb cerussite, silky needles in soft gozzan, also traces malachite.
25-fm level. Fluorite, good bluish-purple cubes.

KCD (1948) 84, 100, 107, 109, 246 (F, Fe, Pb).

works Red Vein SE of Rookhope, next to Stanhopeburn mine [qv].

Fluorite vein, with silica & some galena.

T Bridges & B Young (1998) "STOTSFIELD B.M" [OS maps:-
STOTSFIELD]. Crossite, beaut "jackstraw" xls
in upper workings.

1"84

NY 9443 424

STOTFIELD BURN MINE, Rookhope, Stanhope, Durham.KCD NF (1959) 132: On Red Kim. Working. Fluorite; galenaRSWB et al, II, 115 (17/8/62), 117-119 (18/8/62) Working. Taken underground.

Dumps: Fluorite, purple, some green (xls. rare);
galena, cerussite, blende, chalcopryite,
pyrite, quartz, calcite, ~~inclusions~~ powdery
white coatings of quartz (ir), looking like
hydrozincite!

15-fm level. Superb cerussite, silky needles
in soft gozzan, also traces ? malachite.

25-fm level. Fluorite, good bluish-purple cukes.

1"84 NY 9205 4285
LEVEL
STRAIGHTLEGS ~~STRAIGHT~~, Stanhope, Durham

KCD(1948) 224 Driven S from bank of
Rookhope Burn. At 600', cut
Straightlegs V., tried unsuccessfully
for 250'

1" 78

NZ 3 5

SUNDERLAND, Durham.

See also RYHOPE COLL; WEARMOUTH COLL.,
BUILDING HILL Q'S; MARSDON HILL;

1"84 NZ 04 35

SUNNYSIDE MINE, Frosterley, Co. Durham

KCD (1948), 257. Pb, Fe, F. $1\frac{1}{4}$ ml SE of
Frosterley. E-most mine on Slitt vein? Several
veins found. Purple fluorite, quartz,
galena.

1"78

NZ 20 62

SWALWELL, Blaydon, Durham.

T. Bridges & B. Young (1998) JRS.

Vivianite, traces in clay in trial
boring at 2045 6246 (T. Neal, pers. comm,
1995)

SWANDALE HEAD, Edmondbyers, Durham

See also COLLEGE EDGE, SWANDALE MINE

KCD (1948) 273: Baryte vein at head of
Swandale Burn, $1\frac{1}{4}$ ml W of Edmondbyers
Church. Another baryte vein 2050'
to the S at College Edge.

1184 ? NY 99 48

SWANDALE MINE, Edmondbyers, Durham

See also BURNHOPE M; SWANDALE HEAD;

KCD (1948) 274 To the NW of Burnhope Mine,
on Swandale vein. Siderite, with
calcite & a little sphalerite & galena

1" 84

NY 888 342; 891 342

SWINHOPEHEAD MINE, Stanhope, Durham.

NOT = Swinhopehead mine, Allendale, Northumb [qv]

KCD(1948) 242 Pb Lead ore from a
mineralised fault $3/4$ ml SW of Swinhope
Bridge on the Newbiggin-Westgate road.
A X-cut level to vein. Coarse, rather
siliceous fluorite on dumps

1" 84

NY 916 427

TAILRACE WATER LEVEL, Stanhope, Durham

KCD (1948), 224. Pb. Portal at 1195' OD,
drains the Rookhope Valley up to
Groverake mine. Starts on Scarsike V
on which it runs 1125' SW then turns
NW as X-cut via Rispey Engine Sh &
Wolfclough Sh. to Groverake. Total length
9175'. Believed to be blocked between
Wolfclough & Groverake mines.
Scarsike Veins, ~~near~~ 650 & 1150' SE of
Rispey V's — position shown by old

shaft dumps on S side of valley, with
purple fluorite; limonite; siderite

NZ 170 544

TANFIELD MOOR COLL.,

Durham.

KCD (1948), 336. withersite, with calcite,
up to 6 ft. wide.

B. Young (1985) ~~then~~ P.Y.G.S. 45 199-206. Major
withersite.

TEESDALE, Durham. (e Yorks)

TM Hall (1868) p61 Silver-lead mines in M. grit with
basalt e trap dykes. Augite; cerussite;
"mimetite"; olivine; pyroxene; pyromorphite.

Gel L (1858) "Mimetite"

T Bridges & B. Young (1998) JRS Gel's
"mimetite" prob = pyromorphite

1" 84

NY 947 417

THORNY BROW MINE, Rookhope, Stanhope, Dur.

See also BRANDON WALLS M.

KCD(1948) 239: Shaft on Thorny Brow Vein
(Known only in Rookhope), on E bank of the
burn, 3,400' S of Rookhope Church, collar
at 980' OD. Dump has coarse purple
fluorite, with quartz, siderite, a little
galena & sphalerite. Ancient ironstone
workings exist on both sides of the burn.

1" 84 Around NY 822 342

TROUGH MINE, Forest & Frith, Durham

OS 2½" map shows "Trough Mine (Disused)" at 822 342
with many old levels & shafts thereabouts.

KCD (1948) 290 complex of small veins
about Rough Rigg & Rigg End, 3 main
ones: Rough Rigg, Trough, & Scar Head Veins.
One of main levels from Dry Gill 1250'
S of Rough Rigg, follows NNW X-course
1300' to cut Trough Vein - dump has
amber fluorite & galena.

Another level at 1670' OD from Tongue
Sike NE to Trough V. T. Vein exposed in
Scar Limestone where it carries purple
fluorite & limonite.

Scar Head V. was followed E of the
road, with coarse platy barite

B. Young (1987) PYGS 46,275-8. Amorphous CdS
on sphalerite with 1846 ppm Cd.

URPETH COLLIERY, Chester-le-Street, Durham.

TM Hall (1868) p 66. In coal measures: Hatchettine;
Ozokerite.

Rutley₁₃ (1902) p 75. Ozokerite at Urpeth Colliery, Newcastle-
upon-Tyne.

USHAW MOOR COLLIERY

Durham

KCD (1948), 5, 69, 95, 97, 115, 117, 339, 343, Ba, with.witherite, with pseudo-basal pinacoids.Galena a rarity. goslarite, epsomite,
and melanterite (Smythe, 1933).Shafts S of Ushaw Moor - Esh Winning road,
 $\frac{1}{2}$ ml W of Ushaw Moor, & W of New Brancepeth
coll'y. Baryte, witheriteB. Young (1985) PYGS 45 199-206 - NZ 221 428. Major
witherite

T. Bridges & B. Young (1998) JRS. Smythe (1933,
Vasculum, 12, 12-17) suggested that white powdery
inclusions in a xline melanterite stalact
contained poss. copiapite and "an aluminous"
mineral "allied in compos. to alunite", formula
" $Al_2O_3 \cdot SO_3 \cdot 9H_2O$ " but unlike alunite b axis is large,
& no K. "Alunite" must be misprint for
aluminite [correct formula]; the large optic L & $R.I.s$
near 1.52 corresp w. a dehyd prod of aluminite;
so true ident uncertain. Ni-bearing
goslarite (Smythe, 1933; Dunham, 1947, p. 48)

1" 84

~~NZ~~ NZ 01 34

WAGER BURN MINE, Stanhope, Durham

KCD (1948), 261. Fe, Pb. Level from Wager
Burn, at 799' OD, runs 1625' SE, cuts Wager Burn
Vein at 800' - worked on both sides for
galena in limonitised limestone

E

WASSINGHOPE LEAD MINE, Stanhope, Durham.
Not in Durham (1948). ? = WESTERNGHOPE MINE [9v]

W Phillips (1823) Azurite, in small nodules,
embedded in barite, WASSINGHOPE lead
mine, Stanhope, Durham

NJ Winch (1817) Trans. Geol Soc Series i, Vol IV p84 &
pp 1-101. Azure copper ore, in v. small nodules
imbedded in opake white heavy spar; found in small
quantities at WESSINGHOPE lead mine, near
Stanhope in Weardale in the great list.

T Bridges & B Young (1998) JRS. Refers to
Phillips (1819) "An Elem. Intro. to the Knowledge of
Min'y", 2nd Ed., London. Small nodules of
azurite embedded in baryte from
Wassingham Lead M nr. Stanhope.
"Unable to identify this locality"

N2 1841

WATERHOUSES COAL MINE

Durham.

WATERHOUSE MINE, Northumb. [9v]

Spec in RSWB coll (65-269); presented by L. Nash: Witherite,
crystalline, drusy.

KCD(1948) 339, Map, p 330. Drift, from
Waterhouses wood, opp. High Water Houses,
runs 1800' S in a seam then rises
to another seam, & continues 1700'
S & SSE to the Deerness fault,
where baryte said to be present.
Baryte also found above, at

WEARHEAD, Dur.

1" 84

NY 8539

RSN('06) 48. T. Bridges. p. 6. In ~~Hancock~~ Hancock

Mus an old pectolite from "Wearhead"
coll 1908. A fine spec. Prob from a q. at
Burtreeford NY 8540

WEARHEAD VEIN, Stanhope, Durham.

KCD (1948) 225 Vein with ^{from} flats on hillside
NE of Wearhead village, with large
opencast workings for iron ore, partly
on Slitt Vein, mostly on Wearhead V.

SPARE'S PASTURE LEVEL, mouth now collapsed,
driven from opencut face near the Blackdene-
Cowshill road, was reopened 1929-30 - followed
Vein 400' NE with a little galena in

flat ^{from} on the N side, also a flat
on the S side of the vein. In 1941 a
shaft to this level reopened.

Vein has quartz, purple fluorite, galena,
siderite, ankerite, the last two mainly
ox. → limonite

Nor in NZ 9023 5

WEARMOUTH COLL., Sunderland, Durham

KCD (1948) 331. Vein with up to 5" galena,
with pyrite & mixed carbonates in
shale & sandstone roof of Maudlin seam
(Louis, 1903). Free of galena in the
coal seam, the vein contained zinc
assoc with carbonates (near ankersite).

1" 84 Around NY 825 403

WELLHEADS HUSH, Stanhope, Durham.

KCD (1948) 216 Ancient opencast — lead ore
worked from three converging NE veins.
galena, sphalerite, ambsr, fluorite,
calcite, siderite, cerussite, limonite
No work on these veins since 1831.

KIRKSTEAD LEVEL 2000' W of the hush [at
NY 8200 4060] driven 800' S to a
disappointing vein. Other prospecting

levels nearer the head of the valley
did not prove any veins.

BOWMAN'S VEIN is one of the wellheads
veins. [OS 6" map: 831-4, 412]

OS 6" maps:

CLINTS PITS [OS 6" map 8100 4110] (cf CLINTS LEVEL
at 8445367)

PETERS HUSH [806-7 404-9]

1"84

NY 886 310

WEST BINKS EDGE VEIN, Forest & Frith, Durham

KCD (1948) 294 Adit at West Binks Edge,
driven NNE revealed ^{small} vein replacement
deposits with baryle.

OS 6" map shows WEST BINKS PITS near 886310
and Level (lead) below, at 887 308

T. Bridges & B. Young (1998) JRS. goethite,
xline mamell.

WEST CORNFORTH Q., Coxhoe, Dur.

See COXHOE

WEST END HUSHES, Newbiggin, Durham.

See PIKE LAW

WESTERHEAD VEIN, Newbiggin, Dur.

See PIKE LAW

WESTERNHOPE M's., Stanhope, Durham (II)

T Bridges & B Young (1998) JRS, 7, 3-14. NY 9196 3450
Nat copper, small dendritic, on chalcopyr-
quartz veinstone; with cuprite, crusts
& octahedra $\rightarrow$ 0.1 mm; & malachite, relatively
common crusts of minute needles lining vugs
in "limonite" [goethite] veinstone, at W. OLD
MINE NY 9200 3454. Azurite, "xline crusts
up to 0.5 mm across." Chrysocolla pale turquoise-
blue earthy & mamill on qtz-ankerite at W.
OLD M. "9196 3450". Linarite xls $\rightarrow$ 1.5 mm, post-mine,
on dumps.

T. Bridges (2010), J. Russ. Soc. 13, 66-70.

Report on loc. The site; geol; minerals. Photos of site & minerals.

Ankerite; bismuthinite (v. rare, coll. 1988 tiny needles $\rightarrow$ 1mm inside qtz ass. w. cupy); chalcopyr; fluor; galena; anglesite; azurite (earthy $\rightarrow$ μ -xl. crust); brochantite (1 spec, coll 1988); cerussite; "chrysocolla"; cuprite (earthy $\rightarrow$ μ -xl) w. nat. copper (blackens on storage); goethite ("limonite"); cerosite (earthy); leadhillite (xl, not ident to save it!); linarite ($\rightarrow$ 0.5 mm xls, dump growth); malachite.

1"84 NY 917 343

WESTERN HOPE MINES, Stanhope, Durham (I)
cf "WASSINGHOPE" M. (prob. =).

KCD (1948), 243. Pb, F.

WESTERN HOPE OLD MINE, v. remote, near 917 343,
with extensive opencuts & levels. Extensive
dumps in West Grain & Wolf Cleugh, with
coarse fluorite & quartz, and small amounts
of sulphides, including galena & chalcopyrite.
Robinson's Kern worked on W side of valley only,
from a level 1100' long. Dumps have purple
& amber fluor, "limonite", galena.

WESTERN HOPE NEW MINE, on Ash Cleugh, nr. 930 347

A report says veins very weak, another that consid. fluorite remains.

Dumps. v. rich in fluorite - hundreds to perhaps thousands of tons - but not accessible by road. Only 157 tons recorded as taken from dumps, - by tractor.

Letter to BC /74.

Azurite - Westernhope M.

Jill Goltz, Priv. Comm. 7/90 WESTERNHOPE OLD MINE

dumps ~ 10 min drive from Stanhope. Good sec'y. minerals including cerussite e"quite a lot of" azurite e malachite.

WESTERNHOPE NEW M. Quick look - u/s.

1" 84

~ NY 988 408

WEST PASTURE MINE, Stanhope, Durham

See also STANHOPEBURN M.

Not in KCD "Fluorspar" (1952)
or in KCD "N. Penn. Vol I (1948).

RSWB 82-133 purch. ex Grove House Gall'y, Keswick
Fluorite, cluster of pale yellowish-green
cubes.

Paul Priv Comm 9/82. Pale yellowish-
green fluorite cubes collectable
underground. Said to bleach on
exposure to light.

T Bridges & B Young (1978) JRS. Rosaxite, splenulae
on quartz (Young & Francis, 1989 :- NOT in refs list!!)

1" 84

Around NY 912 392

WEST RIGG MINE, Stanhope, Durham. (I)

See also SLITT PASTURE MINE, etc.

RSWB, TG. 18/3/62. Vol II p. 22. Quick look at opencast: some purple fluorite; quartz; galena. Not much fresh material exposed.

KCD (1948) 254 (Fe) On Slitt V. Opencut E of the Westgate-Rookhope mountain road Limestone impreg. w. limonite from oxidation of Fe carbonates, small amounts fluorite, some galena. Much quartz in vein - left as an unworked pillar in the opencut. Was one of the main Fe products in the area in 2nd half of 19th cent.

RSWB 7/11/70; V. goethite (botryoidal) goethite
on friable "limonite" some massive
fluorite. Being re-worked (by a
Czech[§], who says NOT on Slitt V, which is some
yards to S)

WEST RIGG M., Stanhope, Dur. (II)

B. Young (1988)

WEST RIGG QUARRIES, WESTGATE [NY 911 392]

The importance of the Great Limestone as a host rock for mineralisation is well illustrated in these disused ironstone quarries. The Slitt Vein has been left as a conspicuous wall-like rib across the centre of the excavations. This vein is the longest single vein of the orefield, extending for over 13 miles along the north side of Weardale. It belongs to the so-called 'quarter point' group of veins which strike between E-W and WNW-ESE, and which occupy fault fissures along which transcurrent rather than vertical movement has been dominant. Although commonly well mineralised with gangue minerals over considerable widths (up to 10 m locally) veins of this set generally carry poor metal values. Some lead ore has been obtained at intervals along the vein and old levels and small stopes can be clearly seen in the central part of the vein in West Rigg Quarry. The main filling of Slitt Vein here is quartz with smaller amounts of fluorite. However large areas of the Great Limestone adjacent to the vein were replaced by ankerite or siderite as a result of reaction with mineralising fluids. Minor amounts of galena and fluorite are also present in the altered rock but not in payable amounts. Near the vein almost the entire thickness of the limestone was so replaced. Beyond this the replacement was confined to one main horizon, known as the 'High Flat'. The replacement flats so formed extend here for up to 60 m laterally on

P.T.O.

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Readership: Industrial Chemists; Chemists; Research and Development Workers in the Paint Industry.

0471 032727 approx. 672pp due May '79

either side of the vein. Weathering resulted in the oxidation of the carbonate minerals to dark brown goethite forming a large deposit of iron ore of typical Bilbao type.

These quarries were worked during the latter part of last century yielding iron ore with up to 43.4% Fe. The ore was taken from the quarries by a specially constructed full gauge railway. The tonnage of ore produced at West Rigg is not known.

6.05

WEST RIGG M., Stanhope, Durham (III)

T. Bridges & B. Young (1998) JRS. "Limonitic"
(goethite) Fe ore worked, also "yellow ochre";
xline mammill goethite (912 393)

WEST SLITT LEVEL Stanhope, Durham

See SLITT WEST LEVEL

1" 84

Around 948 466(NY)

WHITE HEAPS MINE, Huastanworth, Durham.

See also SIKEHEAD M., BOLTSHEAD

KCD (1948), 268, 343. Pb, F. Coarse purple
fluorite, massive quartz, small bands
of galena, some chalcedony, small
amounts of marcasite, sphalerite;
carbonates rare.

KCD (1959) N-F, 131-2 Now being tried for
fluorite, with galena
RWB (6/66) 5 40 Dumps: Fluorite gypsum rosettes on shale;
quartz, chalcedony (agate)

RSWB, 7/11/70. V

Working. Fluorite, greyish to purple xls; quartz; chalcedony; a little sphalerite, galena; with xls in vughs; calcite; chalcopryite.

In high-level near entrance, reached by winze; vugh with big quartz xls, milky, 2" diameter, bipyramidal, sprinkled on one side with grey-purple fluorite cubes (up to 1cm) themselves sprinkled on one side with small quartz xls.

Workings continuous with SIKEHEAD MINE, [qv]

KCDunham (1990) Bismuthinite

NORM OS 722

WHITE LEA DRIFT,

Durham.

KCD (1948) 340, Map, p. 330.

Cut the
Deerness fault, with "spar &
gouge" (?) instated nature)

1884

NY 905 ~~14~~ 395?WHITE'S LEVEL, Stanhope, Durham.

See also MIDDLEHOPE MINE

KCD (1948), 238, Fe, Pb. Formed main
entrance of Middlehope Mine. Runs NE
from bank of Middlehope Burn, 1 mi N
of Westgate. Mouth collapsed. Struck a
number of veins & flats eg Shield Close
Vein (at 650'), Dawsons Vein, Middlehope Shield
Vein (at 2700'), Middlehope X-vein, etc. Lead
& iron ore

J. Fisher (2006) UKJMM 27, 25-28. White's

level is prob. source of famous 19th
cent green fluorite specimens, strongly
fluoresc, on sandstone matrix.

Some bevelled edges, faded to pale.
Best superb $\approx$ Height but matrix a
clue.

1" 84

NZ 007 344
~~000~~ 00 33-0034

WHITFIELD BROW, Stanhope, Durham (I)

RSWB 11/70 Adit at 000 336 being cleaned
"The Times" 10/70 Being reexamined [see California mine]
RSWB, TBG, III, 99, (3/6/63) Quarry at 007 3445 is
barren, but dumps there, from 2 adits & a deep
open shaft have quartz, plenty; galena,
blende.

KCD (1948) (F, Fe^{ph}) 260-261 Whitfield Brow mine
worked Markiel, Wager Burn, Bollihope Copper,
Lain's, Wallace's & Woodhall's Veins, ^{Markiel vein} mainly
from a level close to junction between

Howden & Bollihope Burns [NZ 004 350], also
opencut ~~of~~ on SE side of the ~~main~~ road
from Frosterley. On dumps, limonite, quartz,
purple fluorite, galena, sphalerite. Some iron
ore obtained. Ironstone opencasts close
to the head of the level. The belt
of NW veins (the Copper V is the W-most) is 125-250'
wide & has been followed 4000' SSE from
Howden Burn - the low level starts from
right bank at 836' OD [i.e. near 005 348]. The
minerals in the Whitfield Brow veins
included quartz, coarse purple fluorite, calcite,
limonite, & galena, with malachite (probably
derived from chalcopryite) in the Copper vein.

WHITFIELD BROW, Stanhope, Durham, (II)

~~The Times~~
~~Guardian~~ 10/70 (Report dated 4/10/70) Whitfield
Brow Lead mine, being surveyed for
fluorspar by Star Aluminium - also
California & Wiregill mines [q.v]. At
Wh. Brow clearing adit to survey the
Sharnberry vein.

RSWB 8/11/70; V Adit at NZ 000 336,
being cleared. Grit matrix, ~~traces~~ ^{traces} massive
fluorite

Old mine is surveyed for rare mineral

From Ronald Faux

Middleton-in-Teesdale, Oct. 4

A survey has begun in a derelict Weardale lead mine for viable veins of fluorspar, a mineral used in aluminium production. Star Aluminium, a subsidiary of a Swiss company, is spending £200,000 in a survey which, if successful, could lead to a major investment and 200 jobs for the area.

Supplies of fluorspar throughout the world have dropped in the past two years and its value has risen nearly threefold in that time. When the Durham miners were searching for lead they tipped the mineral on to the slag heap. The company believes that if it can find a seam more than 6ft. thick, extensive and of good quality, it could be worth exploiting. Some of the Durham seams are believed to be 12ft. thick.

Mr. Gary Hughes, area geologist for Star Aluminium, said the survey would take about two years. The company has leased 50 sq. miles of moorland between here and Stanhope in Weardale and will thoroughly explore three old lead mines at Whitfield Brow, California and Wiregill. Some were last mined in the 1880s.

"They are finely made with stone arches on the crosscuts between the viens. Ventilation is poor in places and the bad air could be dangerous but we use castlere lemons which give ample

T. Bridges & B. Young (1998) JRS. Small amounts
pyromorphite (N2 008 341)

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"They are finely made with stone arches on the crosscuts between the viens. Ventilation is poor in places and the bad air could be dangerous, but we use acetylene lamps, which give ample warning. If it is hard to drag on a cigarette that is another sign the air is getting dangerously poor", Mr. Hughes said.

At Whitfield Brow, the survey party has cleared away debris and renovated the narrow gauge rail track. Sections underground where the stone lining has collapsed have been shored up with timbers. Drill core samples are being collected for analysis and the company aims to survey closely the Sharnberry Vein.

"We should have some preliminary findings ready by the end of October. Basically it is a question of finding whether there is enough fluorspar of the right quality to justify spending possibly £1m. or so in getting it out", Mr. Hughes said.

1" 84 Around NY 806 333

WILLYHOLE MINE, Forest & Frith, Durham.

See also REDDYCOMB M(=)

KCD (1948), 290. Pb, Zn. Adit on Willyhole
V, which ~~ca~~ follows the sike. V. also
reached from REDDYCOMB M. This
mine-system started up to produce Zn
in 1896 under name of WILLYHOLE M.
galena; sphalerite; baryte;

B. Young (1987) PYGS 46 275-8. Amorphous CdS
on sphalerite with 2000 ppm Cd

B. Young (1988)

WILLYHOLE MINE, HARWOOD [NY 805 336]

Mines here worked lead and zinc ores from the Reddycombe and Willyhole Veins. Mineralisation is typical of the 'barium zone' with barytes as the principal gangue. Supergene alteration seems to have been more intense here than elsewhere in Teesdale and smithsonite is abundant on the dumps both as the 'dry bone' variety and as botryoidal crusts. This is accompanied locally by abundant vivid yellow crusts of greenockite. Perhaps surprisingly the cadmium content of the sphalerite here is not notably higher than in many other northern Pennine deposits. Recent work (Young et al. 1987) has however shown that greenockite may be widely present as a supergene mineral in the orefield.

1" 84

NY 78 36
78 35

WINDY BROW (BRAE), Forest & Frith, Durham

cf WINDY BROW, cumbr (NY 7638)

OS 6in map shows old shafts & levels
in squares 78 35 78 36. Are

these = Windy Brow (copper) mines?
(or more likely see Windy Brow,
CUMB 76 38)

WIREGILL MINE, Middleton-in-Teesdale, Durham.

See also MANORGILL M.; CALIFORNIA M.

KCD (1948), 33(?) 307. Pb. In gt Eggleshope,
1 mi NNE of the bridge on the Middleton-Stanhope
road. The centre of lead-mining activity
in the valley. Wiregill Low L at 1234' OD
on E side, to weak Wiregill Old V @ 460'
then 2000' to Little Eggleshope V. A L.
@ 1354' OD on E side proved large overshoot
forming ca 800' E of beck & continuing 8000'
to the ENE. galena; quartz; purple
& amber fluorite

"The Times" 10/70

Being reexamined [see California mine]

After lunch, lounging in the sunshine, and a discussion of the geology and mineralisation using some excellent teaching material that had been turned up, the party moved up to the higher Wiregill workings. Unfortunately these were also very extensive and dominated by the same primary minerals. However, small amounts of cerussite, anglesite, linarite and hydrozincite turned up here. The party then continued to walk further up the valley, along the line of the main Wiregill dump, towards the Manorgill Hushes. Along the way, Brian Young broke up a septarian nodule which contained millerite. Diligent searching failed to find any more - in fact there very few nodules of any sort let alone millerite bearing ones! The Hushes were eventually reached late in the hot afternoon and could be seen ranging miles up the hillside. The party chickened out at this point and decided to leave their exploration to next year!

RSN(1997) 30. No millerite found.

UY
RSN(1995) 27

1184

NY

902 4325

WOLFCLEUGH MINE, Stanhope, Durham

See also COPTCLEUGH M., GREENWELL'S L.

KCD N-F(1959), 134 Under investigation for fluorspar.
A parallel vein, Greenwell's Vein, recently
tested from 'Wolfcleugh mine mineralised
with galena; fluorite; chalybite.

RSWB et al, II, 119 (18/8/62). Looks recently closed.
Fluorite, including pinkish-purple cubes;
siderite; galena; pyrite; chalcopryite;
quartz; calcite, flat rhombs.

KCD (1948) 223 (F, Pb). An ancient mine, with

galena in fluorite matrix, with quartz,
siderite & a little marcasite.

YEARNCLEUGH VEINS, Stanhope, Dur.

See also MIDDLEHOPE MINE

KCD(1948) 224. NE vein, worked from a level 1400' NW of Middlehope Bottom, from S bank of stream [ie ca 892410 - "Yearncleugh groove" of OS 6" map]. Shaft show workings for ca 600'. On level dump, quartz, purple fluorite, galena. Arched level 1300' further up valley, running WNW, with similar minerals on dump [ie ca 888411 - "High Yearncleugh Groove" of OS 6" map]. In

Yearndleugh 2000' W of this level, a third level followed an EW vein - purple fluorite & quartz on dump [i.e. ca 882411 - "Low Yearndleugh Groove" of OS 6" map].

At head of Middlehope is ~~the~~ MIDDLEHOPEHEAD GROVE, a level on a NW fault - no vein stuff on dump. [OS 6" map shows "Middlehopehead groove (disused)" at 880420]

OS 6" map also shows "Middlehopehead shaft" to NNW of Middlehopehead groove, ~~at~~ at 877428

1"84 NY 990352 - 997 357

YEW TREE MINE, Stanhope, Durham

See also HARNISHA BURN MINE

KCD (1948), 259. Pb, F. On the S side of

Catterick (Moss). Track to Hill End. Main level
N of Bollilhope Burn, at 980' OD - other levels.

Considerable openant in the grit, in which
vein visible; deep shafts from the fell top.

All along the vein, fluorite abundant
on the heaps.

T. Bridges & B. Young (1998) J. Russ S. Azurite
small xls. Jarosite (XRD, BM(NH)) dull
yellow earthy crust, assoc. with
malachite & cerussite on quartz
from upper workings (994 354)

RSN (2001), 38, 16. Beware dangerous collapses. Lower
on hill dumps w. qtz (incl chalced), fluor, mass
anker, galena, ca. Qtz epimorphs after F.
Higher up hill, oxid. minerals: azurite (good
for N. Penns), mal, ceruss, sulphur.