

WATER RESOURCE PROBLEMS RELATED TO MINERAL WORKING IN WESSEX REGION

Historical Summary

c. 1600 - 1750 River Axe (Wookey Hole) carries enough lead ore in suspension from Priddy mines to cause cattle deaths.

1848 - c. 1870 Cheddar Springs chronically polluted by lead-rich suspended sediment from Charterhouse lead works (Mendip Hills Mining Co.).

c. 1860 Court case (Hodgkinson vs. Ennor) prevents discharge of lead-rich washing water into swallets at Priddy lead works, to protect Wookey Hole paper mills.

c. 1900 Blasting in a well in Dulcote Old (East) Quarry causes failure of Dulcote Spring for one day.

c. 1910 Effective end of lead working on Mendips roughly coincides with beginning of large-scale stone quarrying.

1953 - c. 1968 Chronic pollution of Chantry Pond by oil and silt from Asham and West Down quarries described at Bangle Farm Inquiry.

c. 1960 - 1991 Dewatering of sub-water-table workings at Tytherington quarries reduces flow from springs in Tytherington village.

c.1960 - c.1975 Period of intense pollution of surface watercourses by uncontrolled quarry floor runoff (mud, silt, oil, creosote, chemicals). Particularly badly affected were:

Asham Stream and Chantry Lake (Torr, Asham and West Down quarries)
Whatley Brook (Whatley Quarry)
Stoke St Michael Stream (Moons Hill and Stoke quarries)
Gurney Slade Stream (Gurney Slade Quarry)

c. 1965 - 1977 Runoff from Fairy Cave Quarry floor chronically pollutes St Dunstan's Well spring source (Bristol Water) with suspended sediment and chemicals. BW and BARA negotiate with Somerset CC to avoid expansion of F C Quarry.

c. 1965 - 1991 Sub-water-table pumpage, including surface runoff, from Moons Hill and Stoke Basalt quarries chronically pollutes St. Dunstan's Well (Stoke Bottom source, BW) via Stoke St. Michael Stream.

c. 1966 Bristol Water threatens court injunction to stop Amey Quarries breaking into the underground watercourse carrying the Stoke St Michael Stream to St Dunstan's Well in the Cooks Wood Quarry consented area.

c. 1967 Amey Quarries close Cooks Wood Quarry, open Bector Wood Quarry to avoid underground stream.

c. 1967 Holwell Spring source (BW) abandoned because of oil pollution from adjacent Coleman's Quarry. This pollution continues to c. 1991.

c. 1970 - 1991 Banwell Spring (BW source) suffers occasional turbidity problems thought to be caused by rainwash on Sandford Quarry (ARC).

c.1970 - c.1991 Leachate from Compton Bassett waste tip (in Lower Greensand sand pit) causes intermittent pollution of Abberd Brook (or Honeyball Stream?)

c.1970 - c.1991 Dewatering of sub-water-table Southfield Quarry (Avon, ARC) causes failure of Brinsham Stream in dry summers.

1970's Holmsley gravel pit (SU 216 002) Discharge high in suspended solids, no settlement ponds.

1970's Brooks Tip, Upton, Poole (SY 982 922). Sand and gravel pits, no treatment of discharge, high suspended solids.

1970's Landshire Lane clay pits, Henstridge (ST 716 185). Forest Marble Clay. No treatment of discharge, high suspended solids.

1971 Vest Down Quarry borehole polluted by oil from adjacent quarry plant. Replacement borehole drilled.

1971 Seven Springs (Asham Stream) polluted by runoff from adjacent Asham Quarry.

1971 Quarry floor runoff at Hartcliffe Rocks Quarry enters cave, colours water from Winford Hospital Borehole 500m distant.

c. 1975 - 1991 Avon County Council tip in sub-water-table Ham Hill Quarry produces polluting leachate that enters sump and is pumped to exterior stream. NRA believes pumping must continue indefinitely to prevent flooding of tip.

1976 Low flows at Gurney Slade Spring source (BW) allow inspection of well and adits. The intermittent oil pollution was shown to have come from old pumphouse machinery immediately above, not from any quarry.

1977 Fairy Cave Quarry closes; Hobbs quarrying operation transferred to Halecombe Quarry.

1977 Abstraction from Stoke Bottom (St Dunstan's Well) source by BW ceases because of constant quarry pollution. BW retains licence in case of future improvement.

c. 1980 Povington, ECC Ball Clay Workings. (SY 876 834). Chronic pollution of discharge by suspended solids, through lack of settlement.

c. 1980 - 1985 Stokeford Heath. Wareham (SY 877 887). Chronic pollution of discharge from gravel and sand pits, by suspended solids, due to lack of settlement.

c. 1980 - 1989 Arrowsmith Lane, Poole (SZ 032 972). Control Heath, Whites Tip. Discharge from gravel pit chronically polluted by suspended solids, no settlement facilities.

1980 Deepening of Whatley Quarry pumping sump from 81m to 75m AOD causes permanent failure of Hells River Sink/Spring.

1980 - 91 Increasing of cl & BOD at Cold Bath Spring (BW) attributed to leachate from Dial Quarry tip.

1982 Illegal dumping of waste dairy products in Cloford Quarry causes massive pollution of Holwell Springs, 1400m distant. Nunney Brook becomes choked with sewage fungus from the springs down to Nunney village.

1982 Sub-water-table working begins at Gurney Slade Quarry, causing derogation (unquantified) from BW source.

c. 1983 Underground streamway feeding Seven Springs (mean output 9 Ml/d) in Asham Wood breached by Asham Quarry; spring yield reduced.

1983 - 1991 Triscombe Quarry starts sub-water-table working, pumpage pollutes Triscombe Stream with mud and silt.

1984 Powerstock, Marsh Farm (SY 525 953). Leaking silage liquor travelled 500m in underground strata before emerging into stream. Geology: Inferior Oolite limestones.

1984 Batts Combe Quarry - Cheddar Springs quid pro quo. ARC gives up right to work below 60m AOD in return for WA lifting objection to extensions totalling 5.1 acres at a high level.

1984 Summer/autumn. Pumpage from Whatley Quarry exceeds base flow in River Hells at Vallis when sump pumps are on.

1985 - 1986 First sub-water-table pumping from Halecombe Quarry leads to permanent failure of Soho Farm Spring and consequent loss of fishing in Tweed Farm Lake.

1987 Red muddy water sinking into Torr Quarry floor reappears at Seven Springs (Asham Stream).

1987 - 1988 Whatley Quarry - Cooks Wood Quarry quid pro quo (ARC - WWA). WWA lifts objection to 5.8 acre high level extension at Whatley when ARC offers to revoke all rights to 4.9 acres above streamways feeding St Dunstan's Well at Cooks Wood Quarry. Exchanges: 7Mt at Whatley for 1.5Mt of particular water resource value at Cooks Wood.

1988 Wessex Water successfully prosecutes Moons Hill Quarry for polluting stream with suspended solids.

c. 1988 - 1991 Gurney Slade source (BW) suffers occasional turbidity water very muddy) problems thought to be from Gurney Slade Quarry. Coincides with heavy rain.

1988 - 89 Blashford Lakes (SU 157 073) Oil spillage onto gravel pit floor during conversion to lake caused ongoing chronic oil pollution.

1989 West Knighton Gravel - Empool Boreholes quid pro quo. The probability that turbidity problems at Empool are caused by nearby gravel workings leads NRA to object to extending the gravel consent until ARC agrees to revoke consent to work gravel within a 220m radius around Empool.

1989 Sturminster Marshall, Baillie Gate Fish Farm (SY 9599). Gravel pit discharge high in suspended solids through lack of settlement.

1989 Gillingham, quarry in Corallian limestone (ST 777 284). Vandals released oil from storage tanks into the ground.

1989 - 1990 Dewatering of Triscombe Quarry (Tarmac) causes failure of licensed spring source (National Trust) 500m distant.

1989 - 1991 Surface runoff from plant area in Callow Rock Quarry (ECC Quarries), supposed to be clean, sinks into Cb. Ls. aquifer very dirty. ECCQ diverts run-off into surface valley, but crosses Cb. Ls. outcrop and enters road drains.

1989 - 1990 Leachate from waste tip in Charfield clay pit pollutes adjacent stream.

1989 Drilling mud from oil exploration borehole near Swanage (SY 0257 7790) enters cave or fissure in Portland Limestone and reappears in Durlston Bay 1.3 km further east. Travel time c.24 hours.

1990 Deepening of Whatley Quarry sump from 73m to 58m AOD causes major derogation from Oldford Borehole (BW) and early failure of Hapsford Spring.

1990 NRA successfully prosecutes ARC for polluting Whatley Brook by pumpage from Whatley Quarry. (Two separate incidents three days apart)

1991 Nov Clay excavation from North Wick Claypit, Dundry Hill (ST 585 655) charges adjacent springs with suspended solids, silts up domestic well and stream to Norton Hawkfield.

W I Stanton
21.05.91

ARC WHATLEY QUARRY
Incidents Noted on File

February 1982 Oil Pollution

June 1982 Solids contamination from dust dampening down activities

December 1982 Solids 1662 mg/l

May 1984 Oil spillage from storage tank

5th April 1990 Solids 1131 mg/l

15th May 1990 FORMAL SAMPLE Solids 2704 mg/l

30th July 1990 Solids pollution orange discolouration at Great Elm Pond

17th August 1990 FORMAL SAMPLE - high solids in pumpings - prosecution

19th August 1990 FORMAL SAMPLE solids and oil from washing out of dust extractor unit prosecution.