To the Centre of the Earth?

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How far do the rights of a land owner extend upwards and downwards? The simple answer is expressed by the Latin maxim *cuius est solum eius est usque ad coelum et ad inferos*: to whom belongs the surface it belongs also all the way up to the sky and down to the depths. While this is familiar and conventional, there has been uncertainty about its application deep below the surface. Evolving technology makes this uncertainty more significant. A case of directional drilling, from the small British onshore oil industry (from Oxted, just south of London) has allowed the Supreme Court of the United Kingdom to clarify the vitality of the principle: *Star Energy Weald Basin Ltd v Bocardo SA* [2010] UKSC 35, 28 July 2010.

DIRECTIONAL DRILLING AS TRESPASS

Bocardo, a land owner, sued Star Energy, an oil company, for trespass for three wells made under its land by directional drilling. All oil and gas in its natural condition were vested in the Crown, by the Petroleum Act 1934 (just as in New Zealand by the Petroleum Act 1937), and the oil company and its predecessor, Conoco, held a licence under the Act for petroleum exploration and production. The apex or top point of the oil in this particular field lay below Bocardo's land. Conoco did not drill for the oil vertically, but used directional or deviated drilling from a nearby site to get to the right spot. Two wells were drilled for production and ended at points below Bocardo's land, and the third was for water injection, passing under the land and ending at a point beyond it. The closest that any of the wells came to the surface under Bocardo's land was 800 feet, and their lowest point was 2900 feet. The company had not sought the land owner's permission.

Bocardo's case was simply that the wells with their casing and tubing were a trespass; title to the land extended downwards and included everything in it, subject to exceptions such as for minerals. (Bocardo could not sue for the petroleum.) Lord Hope addressed this basic question of liability in terms that the other four Judges agreed with. He referred to the many cases, such as *Rowbotham v Wilson* (1860) 8 HLC 348, 11 ER 463, where it was said that prima facie the owner of the surface is entitled to the surface itself and everything below it down to the centre of the earth. This principle is often put in terms of the maxim or brocard *cuius est solum eius est usque ad coelum et ad inferos*: to whom belongs the surface it belongs also all the way up to the sky and down to the depths. The first recognized appearance of the maxim was in Accursius, a glossator of the thirteenth century. However Lord Wilberforce had given the maxim some rough treatment in *Commissioner for Railways v Valuer-General* [1974] AC 325, saying that its use is imprecise and mainly serviceable as dispensing with analysis.

The oil company's defence on liability was to build on *Bernstein of Leigh (Baron) v Skyviews & General Ltd* [1978] QB 479 and say that a surface owner should be held to own directly down beneath the boundaries of his or her land as far down as necessary for the use and enjoyment of the surface, buildings and any minerals not excluded from his ownership. However there was no English authority for such a limitation. There was some such authority from the United States, but the Court agreed with Sprankling, "Owning the Center of the Earth" (2008) UCLA L Rev 979, that there is also much authority against it, and that the debate remains alive in American law. The Court cited S Todd, ed, *The Law of Torts in New Zealand* (5th ed, 2009) p 426 (in Chapter 9, written by J Smillie), that "there appears to be no

case in the Commonwealth where a plaintiff has failed on the basis that the area of subsoil invaded was so deep that the surface occupier's possessory rights did not extend that far."

Lord Hope concluded that the maxim *cuius est solum* still has value in English law. The reasons for saying it has no place as to airspace are a good deal less compelling as to the subsurface. The approach in *Chance v BP Chemicals Inc* 670 NE 2d 985 (Ohio 1996), that some kind of physical interference with the surface must be shown, would lead to much uncertainty. It overlooks the point that, at least as to corporeal elements, the question is essentially one of ownership. His interesting dictum at 27 was "As a general rule anything that can be touched or worked must be taken to belong to someone." The law was "that the owner of the surface is the owner of the strata beneath it, including the minerals that are to be found there, unless there has been an alienation of them by a conveyance, at common law or by statute to someone else."

As to possession – necessary for trespass – Lord Hope followed the principle that in the absence of evidence to the contrary, the holder of the paper title is deemed to be in possession, so that the owner was deemed to be in possession of the subsurface. The Crown licence gave no right to trespass. Thus on liability, underground ownership, and underground trespass, the Court was unanimous.

DAMAGES

In turning to damages, the Court accepted the common position of the parties that the proper measure was the "user" or wayleave basis, that is, the value to the defendant of the use it has made of the plaintiff's land, rather than the loss suffered by the plaintiff, measured in the price a reasonable person would pay for the right to use the land. Between the parties it was common ground to assume that that price was to be understood as the compensation that a court could have awarded under the Mines (Working Facilities and Support) Act 1966. (This assumption seems odd; it leaves the oil company paying the same amount whether or not it bothered to comply with the statutory scheme. Lord Walker at [47] expresses a reservation.)

At this point the Judges' views on damages diverged. The majority (Lords Walker and Collins agreeing with Lord Brown) held that the general principles of valuation for compulsory acquisition applied; in particular the rule against compensation for any increase in the value of the land caused by the scheme behind the acquisition. According to Lord Brown at [82], but for the scheme of exploitation of petroleum, there was no potential use or value in the right being granted, and a nominal award of £1,000 was positively generous. The minority (Lord Hope agreeing with Lord Clarke) would have held that the land here had special value to the acquirer as a "key" for the scheme because of its physical location.

SIGNFICANCE IN NEW ZEALAND

How would this have played out in New Zealand? Under the Crown Minerals Act 1991, a company needs an "access arrangement" to enter on land even if it has an exploration or mining permit: section 47. Land in section 2 is stated to include land covered by water and the foreshore and seabed. Presumably it includes the subsurface, so that the lack of an access arrangement leaves the company a trespasser if it goes ahead with use of subsurface. So the *Star Energy* situation could well occur here. Directional drilling arose in *Greymouth Petroleum Holdings Ltd v Todd Taranaki Ltd*, High Court Wellington CIV 2004 485 1651,

Wild J, 25 July 2006, but mainly as to the rights of different holders of petroleum permits under the Act.

As for compensation under the Crown Minerals Act for the use of land, section 76 states the general principle that the owner and occupier are entitled to compensation for injurious affection and all other loss or damage suffered, or likely to be suffered, by the grant of the permit or the exercise of rights. That focuses on the loss of the land owner, which is different from the English Act's focus on reasonable negotiation between parties.

However the common law damages prinicples in *Star Energy* are the same as were employed in *Waugh v Attorney General* [2006] 2 NZLR 812, concerning a tunnel connecting two naval yards under roads and private houses in Devonport for a period when the tunnel was unauthorized. The measure of damages for the trespass was the benefit to the Navy from the use of the tunnel rather than a longer route through the streets.

The main relevance of *Star Energy* is the strong reaffirmation of the *cuius est solum* principle. Although familiar law in New Zealand as elsewhere, it fell victim to doubt after *Commissioner for Railways v Valuer-General*. Adrian Bradbrook suggested that the principle should only apply to a limited depth such as 200 meters: A J Bradbrook, "The Relevance of the Cujus Est Solum Doctrine to the Surface Landowner's Claim to Natural Resources Located Above and Beneath the Land" (1988) 11 Adel L R 462. But read carefully in relation to the case before the Privy Council, Lord Wilberforce's observations in *Commissioner for Railways* were always compatible with the principle of ownership up and down indefinitely. He was dispatching an argument that "land" could only mean land that went all the way up and all the way down, defined by vertical boundaries only. *Star Energy* reads *Commissioner for Railways* correctly.

After *Star Energy*, it is clear that the rights of the owner of the surface to the strata below it are not at common law subject to any specific depth limitation such as 200 meters, nor are they restricted to those rights necessary for the ordinary use and enjoyment of the surface. The principle cannot be avoided by dismissing the *cuius est solum* principle and ownership to the centre of the earth as a whimsy; it is better to say that the ownership of the surface extends downwards indefinitely. Certainly, that ownership is subject to any reservations or exceptions made by statute, grant, or common law, chiefly as to minerals. (And it does not generally include water or other fluids.) The decision is also a sound basis for an understanding of the relationship between the subsurface rights of the proprietor of the surface and the proprietor of any mineral rights. Mineral rights are not an out-and-out of grant of all things subterranean. It is good to see reliance on *Mitchell v Mosley* [1914] 1 Ch 438, which is very clear on the point, along with *Pountney v Clayton* (1883) 11 QBD 820.

Title to the subsurface is relevant to the use of new and emerging technology. Directional drilling is a common engineering option now, and can take a well a couple of kilometers horizontally without much difficulty. Coal bed methane operations, facilitated by such technology, are being piloted in the Waikato. There is talk of underground coal gasification. A natural gas storage facility is under construction in Taranaki. Carbon capture and storage is seeing rapid development in other countries and may have a place in New Zealand. All such new uses of the subsurface pose new legal questions.

To address these questions and put in place a good framework for the use of the subsurface would be a more useful policy initiative in the extractive sector than the recent Schedule 4

Stocktake. An adequate framework may exist in the Crown Minerals Act, but *Star Energy* shows that often it does not. For some projects deep in the subsurface, with no surface manifestation, it seems desirable from a policy point of view to be able to obtain approval other than from surface owners. Where such a project underlies a wide extent of land, the consent of all surface owners could be difficult to obtain. Existing procedures under the Crown Minerals Act, the Public Works Act or the Resource Management Act will often be unsuitable. *Star Energy* certainly brings the issues to the fore.

To the poet goes the last word, to prevent us getting tediously literal about maxims even if they are in Latin. William Empson ("Legal Fiction" in *Collected Poems*, 1955) wrote:

> Your rights extend under and above your claim
> Without bound; you own land in Heaven and Hell;
> Your part of earth's surface and mass the same,
> Of all cosmos' volume, and all stars as well.
>
> Your rights reach down where all owners meet, in Hell's
> Pointed exclusive conclave, at earth's centre
> (Your spun farm's root still on that axis dwells);
> And up, through galaxies, a growing sector.