

Chapter 1 : Prospecting | Define Prospecting at www.nxgvision.com

Note: Citations are based on reference standards. However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied.

Underground mining hard rock and Underground mining soft rock Mantrip used for transporting miners within an underground mine Sub-surface mining consists of digging tunnels or shafts into the earth to reach buried ore deposits. Ore, for processing, and waste rock, for disposal, are brought to the surface through the tunnels and shafts. Sub-surface mining can be classified by the type of access shafts used, the extraction method or the technique used to reach the mineral deposit. Drift mining utilizes horizontal access tunnels, slope mining uses diagonally sloping access shafts, and shaft mining utilizes vertical access shafts. Mining in hard and soft rock formations require different techniques. Other methods include shrinkage stope mining , which is mining upward, creating a sloping underground room, long wall mining , which is grinding a long ore surface underground, and room and pillar mining, which is removing ore from rooms while leaving pillars in place to support the roof of the room. Room and pillar mining often leads to retreat mining , in which supporting pillars are removed as miners retreat, allowing the room to cave in, thereby loosening more ore. Additional sub-surface mining methods include hard rock mining , which is mining of hard rock igneous, metamorphic or sedimentary materials, bore hole mining, drift and fill mining, long hole slope mining, sub level caving, and block caving. A typical cycle includes sumping launch-pushing forward and shearing raising and lowering the cutterhead boom to cut the entire height of the coal seam. As the coal recovery cycle continues, the cutterhead is progressively launched into the coal seam for The Pushbeam system can penetrate nearly 1, feet m into the coal seam. One patented Highwall mining system uses augers enclosed inside the Pushbeam that prevent the mined coal from being contaminated by rock debris during the conveyance process. Machines[edit] The Bagger is a bucket-wheel excavator used in strip mining. It is also the largest land vehicle of all time. A Bucyrus Erie dragline and CAT haul truck at the North Antelope Rochelle opencut coal mine Heavy machinery is used in mining to explore and develop sites, to remove and stockpile overburden, to break and remove rocks of various hardness and toughness, to process the ore, and to carry out reclamation projects after the mine is closed. Bulldozers, drills, explosives and trucks are all necessary for excavating the land. In the case of placer mining , unconsolidated gravel, or alluvium , is fed into machinery consisting of a hopper and a shaking screen or trommel which frees the desired minerals from the waste gravel. The minerals are then concentrated using sluices or jigs. Large drills are used to sink shafts, excavate stopes, and obtain samples for analysis. Trams are used to transport miners, minerals and waste. Lifts carry miners into and out of mines, and move rock and ore out, and machinery in and out, of underground mines. Huge trucks, shovels and cranes are employed in surface mining to move large quantities of overburden and ore. Processing plants utilize large crushers, mills, reactors, roasters and other equipment to consolidate the mineral-rich material and extract the desired compounds and metals from the ore. Mineral processing and Extractive metallurgy Once the mineral is extracted, it is often then processed. The science of extractive metallurgy is a specialized area in the science of metallurgy that studies the extraction of valuable metals from their ores, especially through chemical or mechanical means. Mineral processing or mineral dressing is a specialized area in the science of metallurgy that studies the mechanical means of crushing, grinding, and washing that enable the separation extractive metallurgy of valuable metals or minerals from their gangue waste material. Processing of placer ore material consists of gravity-dependent methods of separation, such as sluice boxes. Only minor shaking or washing may be necessary to disaggregate unclump the sands or gravels before processing. Processing of ore from a lode mine, whether it is a surface or subsurface mine, requires that the rock ore be crushed and pulverized before extraction of the valuable minerals begins. After lode ore is crushed, recovery of the valuable minerals is done by one, or a combination of several, mechanical and chemical techniques. Since most metals are present in ores as oxides or sulfides, the metal needs to be reduced to its metallic form. This can be accomplished through chemical means such as smelting or through electrolytic reduction, as in the case

of aluminium. Geometallurgy combines the geologic sciences with extractive metallurgy and mining. In , led by Chemistry and Biochemistry professor Bradley D. Smith, University of Notre Dame researchers "invented a new class of molecules whose shape and size enable them to capture and contain precious metal ions," reported in a study published by the Journal of the American Chemical Society. The new method "converts gold-containing ore into chloroauric acid and extracts it using an industrial solvent. The container molecules are able to selectively separate the gold from the solvent without the use of water stripping. Environmental impact of mining Iron hydroxide precipitate stains a stream receiving acid drainage from surface coal mining. Environmental issues can include erosion , formation of sinkholes , loss of biodiversity , and contamination of soil , groundwater and surface water by chemicals from mining processes. In some cases, additional forest logging is done in the vicinity of mines to create space for the storage of the created debris and soil. Mining companies in most countries are required to follow stringent environmental and rehabilitation codes in order to minimize environmental impact and avoid impacting human health. These codes and regulations all require the common steps of environmental impact assessment , development of environmental management plans, mine closure planning which must be done before the start of mining operations , and environmental monitoring during operation and after closure. However, in some areas, particularly in the developing world, government regulations may not be well enforced. For major mining companies and any company seeking international financing, there are a number of other mechanisms to enforce good environmental standards. These generally relate to financing standards such as the Equator Principles , IFC environmental standards, and criteria for Socially responsible investing. Mining companies have used this oversight from the financial sector to argue for some level of industry self-regulation. For example, ISO and ISO , which certify an "auditable environmental management system", involve short inspections, although they have been accused of lacking rigor. Miscellaneous other certification programs exist for various projects, typically through nonprofit groups. It found existing literature suggesting donors encourage developing countries to: Make the environment-poverty link and introduce cutting-edge wealth measures and natural capital accounts. Reform old taxes in line with more recent financial innovation, engage directly with the companies, enacting land use and impact assessments, and incorporate specialised support and standards agencies. Set in play transparency and community participation initiatives using the wealth accrued. Waste[edit] Ore mills generate large amounts of waste, called tailings. For example, 99 tons of waste are generated per ton of copper, [43] with even higher ratios in gold mining - because only 5. These tailings can be toxic. Tailings, which are usually produced as a slurry , are most commonly dumped into ponds made from naturally existing valleys. When the mineralised package is determined by an economic cut-off, the near-grade mineralised waste is usually dumped separately with view to later treatment should market conditions change and it becomes economically viable. Civil engineering design parameters are used in the design of the waste dumps, and special conditions apply to high-rainfall areas and to seismically active areas. Waste dump designs must meet all regulatory requirements of the country in whose jurisdiction the mine is located. It is also common practice to rehabilitate dumps to an internationally acceptable standard, which in some cases means that higher standards than the local regulatory standard are applied. Electricity is typically generated with diesel generators. Due to high transportation cost and theft during transportation the cost for generating electricity is normally high. Renewable energy applications are becoming an alternative or amendment. Both solar and wind power plants can contribute in saving diesel costs at mining sites. Renewable energy applications have been built at mining sites. List of mines , List of mining companies , Category: Mining companies , and Category: Mining industry by country Mining exists in many countries. In the developed world, mining in Australia , with BHP Billiton founded and headquartered in the country, and mining in Canada are particularly significant. While exploration and mining can be conducted by individual entrepreneurs or small businesses, most modern-day mines are large enterprises requiring large amounts of capital to establish. Consequently, the mining sector of the industry is dominated by large, often multinational, companies, most of them publicly listed. The exploration sector is typically made up of individuals and small mineral resource companies, called "juniors", which are dependent on venture capital. The mining sector is made up of large multinational companies that are sustained by production from their mining operations. Various other industries such as equipment

manufacture, environmental testing, and metallurgy analysis rely on, and support, the mining industry throughout the world. These are oil and gas extraction, coal mining, metal ore mining, nonmetallic mineral mining and quarrying, and mining support activities. Prospecting potential mining sites, a vital area of concern for the mining industry, is now done using sophisticated new technologies such as seismic prospecting and remote-sensing satellites. Mining is heavily affected by the prices of the commodity minerals, which are often volatile. The s commodities boom "commodities supercycle" increased the prices of commodities, driving aggressive mining. Junior companies rely on equity financing as their principal means of funding exploration. Increasing debate and influence by NGOs and local communities called for a new approaches which would also include disadvantaged communities, and work towards sustainable development even after mine closure including transparency and revenue management. By the early s, community development issues and resettlements became mainstream concerns in World Bank mining projects. Furthermore, this highlighted regional and local demand for mining revenues and an inability of sub-national governments to effectively use the revenues. The Fraser Institute a Canadian think tank has highlighted[clarification needed] the environmental protection laws in developing countries, as well as voluntary efforts by mining companies to improve their environmental impact.

Chapter 2 : Prospecting Channel Programs Schedule

*Modern Electronic Prospecting [Roy Lagal, Charles Garrett] on www.nxgvision.com *FREE* shipping on qualifying offers. Book by Roy Lagal, Charles Garrett.*

Conceptions of privacy and the value of privacy Discussions about privacy are intertwined with the use of technology. The publication that began the debate about privacy in the Western world was occasioned by the introduction of the newspaper printing press and photography. Since the publication of that article, the debate about privacy has been fueled by claims for the right of individuals to determine the extent to which others have access to them Westin and claims for the right of society to know about individuals. The privacy debate has co-evolved with the development of information technology. It is therefore difficult to conceive of the notions of privacy and discussions about data protection as separate from the way computers, the Internet, mobile computing and the many applications of these basic technologies have evolved. Think here, for instance, about information disclosed on Facebook or other social media. All too easily, such information might be beyond the control of the individual. Statements about privacy can be either descriptive or normative, depending on whether they are used to describe the way people define situations and conditions of privacy and the way they value them, or are used to indicate that there ought to be constraints on the use of information or information processing. Informational privacy in a normative sense refers typically to a non-absolute moral right of persons to have direct or indirect control over access to 1 information about oneself, 2 situations in which others could acquire information about oneself, and 3 technology that can be used to generate, process or disseminate information about oneself. There are basically two reactions to the flood of new technology and its impact on personal information and privacy: The other reaction is that our privacy is more important than ever and that we can and we must attempt to protect it. In the literature on privacy, there are many competing accounts of the nature and value of privacy. On one end of the spectrum, reductionist accounts argue that privacy claims are really about other values and other things that matter from a moral point of view. According to these views the value of privacy is reducible to these other values or sources of value Thomson Proposals that have been defended along these lines mention property rights, security, autonomy, intimacy or friendship, democracy, liberty, dignity, or utility and economic value. Reductionist accounts hold that the importance of privacy should be explained and its meaning clarified in terms of those other values and sources of value Westin Views that construe privacy and the personal sphere of life as a human right would be an example of this non-reductionist conception. More recently a type of privacy account has been proposed in relation to new information technology, that acknowledges that there is a cluster of related moral claims cluster accounts underlying appeals to privacy DeCew ; Solove ; van den Hoven ; Allen ; Nissenbaum , but maintains that there is no single essential core of privacy concerns. A recent final addition to the body of privacy accounts are epistemic accounts, where the notion of privacy is analyzed primarily in terms of knowledge or other epistemic states. An important aspect of this conception of having privacy is that it is seen as a relation Rubel ; Matheson ; Blaauw with three argument places: Here S is the subject who has a certain degree of privacy. Another distinction that is useful to make is the one between a European and a US American approach. A bibliometric study suggests that the two approaches are separate in the literature. In discussing the relationship of privacy matters with technology, the notion of data protection is most helpful, since it leads to a relatively clear picture of what the object of protection is and by which technical means the data can be protected. At the same time it invites answers to the question why the data ought to be protected. Informational privacy is thus recast in terms of the protection of personal data van den Hoven Examples include date of birth, sexual preference, whereabouts, religion, but also the IP address of your computer or metadata pertaining to these kinds of information. Personal data can be contrasted with data that is considered sensitive, valuable or important for other reasons, such as secret recipes, financial data, or military intelligence. Data that is used to secure other information, such as passwords, are not considered here. Although such security measures may contribute to privacy, their protection is only instrumental to the protection of other information, and the quality of such security measures is therefore out of the scope of our

considerations here. A relevant distinction that has been made in philosophical semantics is that between the referential and the attributive use of descriptive labels of persons van den Hoven Personal data is defined in the law as data that can be linked with a natural person. There are two ways in which this link can be made; a referential mode and a non-referential mode. In this case, the user of the description is not “and may never be” acquainted with the person he is talking about or wants to refer to. If the legal definition of personal data is interpreted referentially, much of the data about persons would be unprotected; that is the processing of this data would not be constrained on moral grounds related to privacy or personal sphere of life. Personal data have become commodities. Individuals are usually not in a good position to negotiate contracts about the use of their data and do not have the means to check whether partners live up to the terms of the contract. Data protection laws, regulation and governance aim at establishing fair conditions for drafting contracts about personal data transmission and exchange and providing data subjects with checks and balances, guarantees for redress. Informational injustice and discrimination: Personal information provided in one sphere or context for example, health care may change its meaning when used in another sphere or context such as commercial transactions and may lead to discrimination and disadvantages for the individual. Encroachment on moral autonomy: Lack of privacy may expose individuals to outside forces that influence their choices. These formulations all provide good moral reasons for limiting and constraining access to personal data and providing individuals with control over their data. The basic moral principle underlying these laws is the requirement of informed consent for processing by the data subject. Furthermore, processing of personal information requires that its purpose be specified, its use be limited, individuals be notified and allowed to correct inaccuracies, and the holder of the data be accountable to oversight authorities OECD Because it is impossible to guarantee compliance of all types of data processing in all these areas and applications with these rules and laws in traditional ways, so-called privacy-enhancing technologies and identity management systems are expected to replace human oversight in many cases. The challenge with respect to privacy in the twenty-first century is to assure that technology is designed in such a way that it incorporates privacy requirements in the software, architecture, infrastructure, and work processes in a way that makes privacy violations unlikely to occur. Typically, this involves the use of computers and communication networks. The amount of information that can be stored or processed in an information system depends on the technology used. This holds for storage capacity, processing capacity, and communication bandwidth. We are now capable of storing and processing data on the exabyte level. These developments have fundamentally changed our practices of information provisioning. Even within the academic research field, current practices of writing, submitting, reviewing and publishing texts such as this one would be unthinkable without information technology support. At the same time, many parties collate information about publications, authors, etc. This enables recommendations on which papers researchers should read, but at the same time builds a detailed profile of each individual researcher. The rapid changes have increased the need for careful consideration of the desirability of effects. Some even speak of a digital revolution as a technological leap similar to the industrial revolution, or a digital revolution as a revolution in understanding human nature and the world, similar to the revolutions of Copernicus, Darwin and Freud Floridi In both the technical and the epistemic sense, emphasis has been put on connectivity and interaction. Physical space has become less important, information is ubiquitous, and social relations have adapted as well. As connectivity increases access to information, it also increases the possibility for agents to act based on the new sources of information. When these sources contain personal information, risks of harm, inequality, discrimination, and loss of autonomy easily emerge. For example, your enemies may have less difficulty finding out where you are, users may be tempted to give up privacy for perceived benefits in online environments, and employers may use online information to avoid hiring certain groups of people. Furthermore, systems rather than users may decide which information is displayed, thus confronting users only with news that matches their profiles. Although the technology operates on a device level, information technology consists of a complex system of socio-technical practices, and its context of use forms the basis for discussing its role in changing possibilities for accessing information, and thereby impacting privacy. We will discuss some specific developments and their impact in the following sections. The World Wide Web of today was not foreseen, and neither was the possibility of

misuse of the Internet. Social network sites emerged for use within a community of people who knew each other in real life—“at first, mostly in academic settings”—rather than being developed for a worldwide community of users Ellison. It was assumed that sharing with close friends would not cause any harm, and privacy and security only appeared on the agenda when the network grew larger. This means that privacy concerns often had to be dealt with as add-ons rather than by-design. A major theme in the discussion of Internet privacy revolves around the use of cookies Palmer. However, some cookies can be used to track the user across multiple web sites tracking cookies, enabling for example advertisements for a product the user has recently viewed on a totally different site. Again, it is not always clear what the generated information is used for. Laws requiring user consent for the use of cookies are not always successful, as the user may simply click away any requests for consent, merely finding them annoying. Similarly, features of social network sites embedded in other sites e. Previously, whereas information would be available from the web, user data and programs would still be stored locally, preventing program vendors from having access to the data and usage statistics. In cloud computing, both data and programs are online in the cloud, and it is not always clear what the user-generated and system-generated data are used for. Moreover, as data is located elsewhere in the world, it is not even always obvious which law is applicable, and which authorities can demand access to the data. Data gathered by online services and apps such as search engines and games are of particular concern here. Which data is used and communicated by applications browsing history, contact lists, etc. Some special features of Internet privacy social media and Big Data are discussed in the following sections. The question is not merely about the moral reasons for limiting access to information, it is also about the moral reasons for limiting the invitations to users to submit all kinds of personal information. Users are tempted to exchange their personal data for the benefits of using services, and provide both this data and their attention as payment for the services. One way of limiting the temptation of users to share is requiring default privacy settings to be strict. Also, such restrictions limit the value and usability of the social network sites themselves, and may reduce positive effects of such services. A particular example of privacy-friendly defaults is the opt-in as opposed to the opt-out approach. When the user has to take an explicit action to share data or to subscribe to a service or mailing list, the resulting effects may be more acceptable to the user. This is not only data explicitly entered by the user, but also numerous statistics on user behavior: Data mining can be employed to extract patterns from such data, which can then be used to make decisions about the user. These may only affect the online experience advertisements shown, but, depending on which parties have access to the information, they may also impact the user in completely different contexts. In particular, Big Data may be used in profiling the user Hildebrandt, creating patterns of typical combinations of user properties, which can then be used to predict interests and behavior. These derivations could then in turn lead to inequality or discrimination. When a user can be assigned to a particular group, even only probabilistically, this may influence the actions taken by others. For example, profiling could lead to refusal of insurance or a credit card, in which case profit is the main reason for discrimination. Profiling could also be used by organizations or possible future governments that have discrimination of particular groups on their political agenda, in order to find their targets and deny them access to services, or worse. Big Data does not only emerge from Internet transactions. Similarly, data may be collected when shopping, when being recorded by surveillance cameras in public or private spaces, or when using smartcard-based public transport payment systems. All these data could be used to profile citizens, and base decisions upon such profiles. For example, shopping data could be used to send information about healthy food habits to particular individuals, but again also for decisions on insurance. According to EU data protection law, permission is needed for processing personal data, and they can only be processed for the purpose for which they were obtained.

Chapter 3 : Mining - Wikipedia

In Electronic Gold Prospecting, Modern Pulse Induction Detectors and Performance Boosting, - we use two Minelab GZ's and one GP which Darren is using. Despite the fact that the GZ's.

Some early miners also used an early form of hardrock mining, digging solid veins of gold out of rock, where mineralized water had deposited it over thousands of years. Today, gold is extracted in hardrock mines that directly mine the source rock, or "lode" of gold, where it was originally deposited by geochemical processes. Most ore accessed this way today contains only microscopic grains of gold, and it takes tons of rock to produce ounces of gold. Hardrock mines can be either underground mines or strip mines, and are usually more environmentally destructive than placer mining. Copyright held by photographer Placer Mining The stereotypical grizzled gold-rush prospector panning for gold was searching for "placer gold", or gold deposited in a waterway. Placer mining takes a variety of forms, including panning, "sluice-boxing", hydraulic mining, and dredging. All of these techniques use gravity and water to separate the dense gold from the lighter sand and gravel. Some modern commercial placer operations are quite large and utilize heavy equipment and river diversions. The sources of all placer gold are "lodes", or veins of gold naturally formed within the rock. Ongoing weathering and erosion of rock outcrops continuously exposes new fragments of gold that wash downstream. Because gold is far denser than most rock Gold accumulates in such places while other rock and sediment is washed further downstream. Mine pit at Fort Knox hardrock gold mine Fort Knox hardrock gold mine pit source: Copyright held by photographer Hardrock Lode Mining The vast majority of current gold production comes from commercial hardrock mining operations. In these mines, the gold is extracted from the rock where it was originally deposited. Some hardrock mines are underground mines. A tunnel is drilled or blasted to the source of the ore, which is transported out for processing often by truck or rail. A variety of specific techniques can be used for mining the ore, depending on the geology of the area - such as block caving, which allows massive strip-mine scale underground excavation, or the more stereotypical cut-and-fill and drift-and-fill techniques, where miners dig out in long horizontal tunnels. Other hardrock mines are large strip mines that remove the surface dirt and rock and then extract the ore from the resulting open pit. Removal of ore is often accomplished explosives, enormous power shovels, and massive trucks, some capable of carrying tons of rock in one load. In both kinds of hardrock mining, the ore is then processed in some manner to remove the gold. Usually this entails crushing the rock into powder and using some combination of gravity, centrifugation, and "froth flotation" to perform an initial separation of gold from rock. In many cases this is followed by some form of cyanide treatment to precipitate out the remaining gold. The remaining ore mud waste is known as "tailings", the disposal of which is one of the largest challenges facing a hardrock mine. Gold is both highly valuable, and relatively useless. The vast majority of gold mined throughout history is now jewelry, or stored in vaults as an investment This means that governments are in effect lowering the cost of environmentally destructive mining, contributing to demand by hoarding large reserves, and then directly paying for the costs of mine cleanup. All this in return for no material benefit to taxpayers The primary impacts of placer mining are habitat destruction and sediment release. Habitat destruction occurs as a result of river diversions, and the disruption of riverbanks and river bottoms. These activities also release large amounts of silt and sediment into downstream waterways, which can severely impact water quality. Modern commercial operations tend to use settling ponds to prevent this discharge. Hardrock mines have a much larger environmental footprint than placer mining, by virtue of their size, the chemistry of the ore deposits, the generation of extremely large volumes of hazardous waste material, and the use of toxic chemicals. Modern commercial hardrock mines are massive operations, in some cases displacing and processing over, tons of gold-bearing ore per day. In addition to the direct ecological disruption of mining on this scale, much of the gold mined this way is found in sulfur-bearing rocks. In addition, many small mines use mercury for the separation of gold, while large mines instead use cyanide. Gold mining in Alaska Gold mining has a long history in Alaska, beginning with the Klondike Gold Rush at the end of the 19th century. Even today there exist a variety of placer mining operations ranging from large commercial placer mines to stream panning by tourists. The or

so official placer mines in produced 55, ounces of gold while employing around people.

Chapter 4 : Technology, Minerals and War in the Democratic Republic of Congo

Modern Electronic Prospecting by Roy Lagal, Charles Garrett. Ram Publishing Company. Paperback. POOR. Noticeably used book. Heavy wear to cover. Pages contain marginal notes, underlining, and or highlighting.

Gold Detectors are designed to find gold deeper and in smaller quantities than a regular metal detector, and to ignore bottle caps, spent cartridges, and other junk. It gives you a stunning 6. Bring Home More Gold with a Sluice Box One prospector using the Proline 36 inch sluice box can find as much gold as five or six miners using only gold pans. The use of modern prospecting equipment, such as gold detectors, lightweight dredges, and lightweight sluices will allow a new generation of gold prospectors to strike pay dirt, because the gold is there. Some of the same type of tools have been incorporated in gold prospecting for centuries, only some of the new versions make prospecting easier and, at times, more profitable. To start on your new treasure hunting venture, some of the tools and supplies you will need are: Gold Panning Kits These are a great way for beginners to get started prospecting! The most basic piece of equipment you will need to find gold is a Gold Pan. You can use a simple metal pie pan for prospecting, but the new plastic pans work much better for many reasons. First off, they float in water, rather than sink like steel or metal pie pans do. The plastic gold panning pans are also less expensive than most metal pans made specifically for gold prospecting. Sniffer Bottles These are plastic bottles with a cone shaped top that you can use to sniff the gold up from the pan. All you do is put the end of the bottle where the gold is and gently squeeze it to create a suction to sniff up the gold up into the bottle. This makes it from more easier than trying to handle the gold or pour it into a plastic baggie. Sluice Boxes Sluice boxes are a huge improvement over just panning. Sluices are a tool that has always been used as well in prospecting. A portion of the riverbed is dump into the sluice box, along with water, and the heavier gold gets trapped in the crannies of the box while the sand and lighter rocks get washed away by the water. They are cutting edge electronic tools designed specifically to find gold in smaller quantities and at greater depths than older devices and toughened to withstand the harsh environment of the gold fields. Gold Dredges Dredges often allow weekend prospectors to go full-time! Dry Washers These are used to prospect for gold in areas where there is no water available, such as the desert. A crude form of them have been used since the early prospecting days, which used the air flow and vibration to sift through the sand and rock to find gold. Gold Mining Tools Even for a weekend prospector the right shovel can literally be worth its weight in gold. Gold mining tools need to be tough, durable, and reasonably priced. The gold is out there if you are willing to make the effort, and with modern gold mining equipment even greenhorns stand a chance of striking it rich.

Chapter 5 : Â» Historical Mining Talk

Modern Electronic Prospecting by Roy Lagal, Charles Garrett Condition: Used:Good. \$ () Add to basket More shipping options > Add to wishlist E-mail a link to.

History of bitcoin In , the American cryptographer David Chaum conceived an anonymous cryptographic electronic money called ecash. This allowed the digital currency to be untraceable by the issuing bank, the government, or any third party. A currency system based on a reusable proof of work was later created by Hal Finney who followed the work of Dai and Szabo. The first decentralized cryptocurrency, bitcoin, was created in by pseudonymous developer Satoshi Nakamoto. It used SHA , a cryptographic hash function, as its proof-of-work scheme. Soon after, in October , Litecoin was released. It was the first successful cryptocurrency to use scrypt as its hash function instead of SHA The study was also to report on whether regulation should be considered. The system keeps an overview of cryptocurrency units and their ownership. The system defines whether new cryptocurrency units can be created. If new cryptocurrency units can be created, the system defines the circumstances of their origin and how to determine the ownership of these new units. Ownership of cryptocurrency units can be proved exclusively cryptographically. The system allows transactions to be performed in which ownership of the cryptographic units is changed. A transaction statement can only be issued by an entity proving the current ownership of these units. If two different instructions for changing the ownership of the same cryptographic units are simultaneously entered, the system performs at most one of them. In March , the word cryptocurrency was added to the Merriam-Webster Dictionary. Stephanie Yang of The Wall Street Journal defined altcoins as "alternative digital currencies," [22] while Paul Vigna, also of The Wall Street Journal, described altcoins as alternative versions of bitcoin. In this case, the units or coins are sometimes referred to as crypto tokens or cryptotokens. Architecture Decentralized cryptocurrency is produced by the entire cryptocurrency system collectively, at a rate which is defined when the system is created and which is publicly known. In centralized banking and economic systems such as the Federal Reserve System , corporate boards or governments control the supply of currency by printing units of fiat money or demanding additions to digital banking ledgers. In case of decentralized cryptocurrency, companies or governments cannot produce new units, and have not so far provided backing for other firms, banks or corporate entities which hold asset value measured in it. The underlying technical system upon which decentralized cryptocurrencies are based was created by the group or individual known as Satoshi Nakamoto. A blockchain is a continuously growing list of records , called blocks, which are linked and secured using cryptography. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way". Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks, which requires collusion of the network majority. Blockchains are secure by design and are an example of a distributed computing system with high Byzantine fault tolerance. Decentralized consensus has therefore been achieved with a blockchain. Timestamping Cryptocurrencies use various timestamping schemes to "prove" the validity of transactions added to the blockchain ledger without the need for a trusted third party. The first timestamping scheme invented was the proof-of-work scheme. The most widely used proof-of-work schemes are based on SHA and scrypt. The proof-of-stake is a method of securing a cryptocurrency network and achieving distributed consensus through requesting users to show ownership of a certain amount of currency. It is different from proof-of-work systems that run difficult hashing algorithms to validate electronic transactions. For this effort, successful miners obtain new cryptocurrency as a reward. The reward decreases transaction fees by creating a complementary incentive to contribute to the processing power of the network. Thus the value of the currency obtained for finding a hash often does not justify the amount of money spent on setting up the machines, the cooling facilities to overcome the enormous amount of heat they produce, and the electricity required to run them. A "share" is awarded to members of the mining pool who present a valid partial proof-of-work. Some Chinese miners have since relocated to Canada. In October Russia will become home to one of the largest legal mining operations in the world, located in Siberia. In March , a town in Upstate New York put an 18 month

moratorium on all cryptocurrency mining in an effort to preserve natural resources and the "character and direction" of the city. Cryptocurrency wallet A cryptocurrency wallet stores the public and private "keys" or "addresses" which can be used to receive or spend the cryptocurrency. With the private key, it is possible to write in the public ledger, effectively spending the associated cryptocurrency. With the public key, it is possible for others to send currency to the wallet. Anonymity Bitcoin is pseudonymous rather than anonymous in that the cryptocurrency within a wallet is not tied to people, but rather to one or more specific keys or "addresses". Cryptocurrency anonymizing implementations such as Cloakcoin, Dash, and PIVX use built in mixing services, also known as tumblers. Fungibility and Non-fungible token Most cryptocurrency tokens are fungible and interchangeable. However, unique non-fungible tokens also exist. Such tokens can serve as assets in games like CryptoKitties. Economics Cryptocurrencies are used primarily outside existing banking and governmental institutions and are exchanged over the Internet. Transaction fees Transaction fees for cryptocurrency depend mainly on the supply of network capacity at the time, versus the demand from the currency holder for a faster transaction. The currency holder can choose a specific transaction fee, while network entities process transactions in order of highest offered fee to lowest. Cryptocurrency exchanges can simplify the process for currency holders by offering priority alternatives and thereby determine which fee will likely cause the transaction to be processed in the requested time. For ether , transaction fees differ by computational complexity, bandwidth use, and storage needs, while bitcoin transaction fees differ by transaction size and whether the transaction uses SegWit. Cryptocurrency exchange Cryptocurrency exchanges allow customers to trade cryptocurrencies for other assets, such as conventional fiat money , or to trade between different digital currencies. Atomic swaps Main article: Atomic swap Atomic swaps are a mechanism where one cryptocurrency can be exchanged directly for another cryptocurrency, without the need for a trusted third party such as an exchange. An ICO may be used by startups with the intention of avoiding regulation. However, securities regulators in many jurisdictions, including in the U. In an ICO campaign, a percentage of the cryptocurrency usually in the form of "tokens" is sold to early backers of the project in exchange for legal tender or other cryptocurrencies, often bitcoin or ether. While some countries have explicitly allowed their use and trade, [53] others have banned or restricted it. According to the Library of Congress , an "absolute ban" on trading or using cryptocurrencies applies in eight countries: China Central Bank banned the handling of bitcoins by financial institutions in China in early In Russia, though cryptocurrencies are legal, it is illegal to actually purchase goods with any currency other than the Russian ruble. In April , Russian and Iranian economic representatives met to discuss how to bypass the global SWIFT system through decentralized blockchain technology. The Japanese platform Line and the Russian platform Yandex have similar prohibitions. This means bitcoin will be subject to capital gains tax. Concerns abound that altcoins may become tools for anonymous web criminals. Transactions that occur through the use and exchange of these altcoins are independent from formal banking systems, and therefore can make tax evasion simpler for individuals. Since charting taxable income is based upon what a recipient reports to the revenue service, it becomes extremely difficult to account for transactions made using existing cryptocurrencies, a mode of exchange that is complex and difficult to track. Rather than laundering money through an intricate net of financial actors and offshore bank accounts, laundering money through altcoins can be achieved through anonymous transactions. Gox , declared bankruptcy. Tether indicates that it is building a new core for its primary wallet in response to the attack in order to prevent the stolen coins from being used. Darknet market Cryptocurrency is also used in controversial settings in the form of online black markets , such as Silk Road. The original Silk Road was shut down in October and there have been two more versions in use since then. In the year following the initial shutdown of Silk Road, the number of prominent dark markets increased from four to twelve, while the amount of drug listings increased from 18, to 32, Bitcoins and other forms of cryptocurrency used in dark markets are not clearly or legally classified in almost all parts of the world. This type of ambiguous classification puts pressure on law enforcement agencies around the world to adapt to the shifting drug trade of dark markets. An enormous amount of energy goes into proof-of-work cryptocurrency mining, although cryptocurrency proponents claim it is important to compare it to the consumption of the traditional financial system. For example, technological advancement in cryptocurrencies such as bitcoin

result in high up-front costs to miners in the form of specialized hardware and software. Additionally, cryptocurrency private keys can be permanently lost from local storage due to malware, data loss or the destruction of the physical media. This prevents the cryptocurrency from being spent, resulting in its effective removal from the markets. Academic studies Main article: It covers studies of cryptocurrencies and related technologies, and is published by the University of Pittsburgh. Authors are also asked to include a personal bitcoin address in the first page of their papers.

Chapter 6 : Prospecting for Gold Near Washington, DC - Virginia Maryland VA MD how to find

Provides the most informative learning opportunities available anywhere in the world in nearly all aspects of modern small-scale gold prospecting and mining procedures "from gold pans, to electronics, to underwater dredging.

Full page ad now advertised in major prospecting magazines. Only purchase from Certified Minelab dealers. Call Today to order your detector by phone. Now in stock and ready to ship! Call "Allow us to earn your business. Call or email us anytime - auplayers yahoo. This site will continue to grow in the future. My nugget, meteorite and gold prospecting experiences extend from Northern Alaska, down to the lower Southwestern deserts of Nevada, California, New Mexico, Arizona and into Mexico. Widespread amounts of placer, along with lode gold have been found in these regions, which is part of the western cordillera. Economic Geologist estimates that there are still thousands of ounces of placer gold nuggets lying within metal detector range. This range can vary from a few inches, to several feet in depth. History states, large gold nuggets, over several hundred ounces, were once recovered in the early American gold rush days. Without a doubt, all of these large gold nuggets have not been uncovered. With the use of a good metal detector, electronic prospectors not only add another tool to their arsenal, but also can cover much more ground, in return only adding to your chances of a good find! Metal detectorists often find small alluvial and eluvial gold nuggets today. Metal detecting has become quite the popular hobby within the last several years. Since the recent technology advances in metal detectors and skyrocketing prices of gold, electronic gold prospecting has become very popular within the last several years. The metal detector is a tool that can now be used effectively to find shallow free-milling gold pockets and pay streaks within both dry placer and hardrock gold districts. Unfortunately their recovery was low due to faulty equipment design and operational errors. Want to learn more about Electronic Gold Prospecting? Come join up today and be part of one of the largest gold prospecting forums on the Internet. Find out what people are finding with these new Minelab metal detectors. We now have more than 1. Due to vast amounts of weathering, many of these veins have now weathered out and formed hillside eluvial and stream alluvial deposits. Many of the hillsides around idle rich gold mines may be dotted with gold ore and nuggets. With the use of a quality metal detector, prospectors can now increase gold finds by covering more area in a shorter amount of time. Due to a high specific gravity of gold and millions of years of erosion and concentration, gold nuggets found the lowest possible place to rest. Most of the time, these areas were drainages, and the old-timers conducted most of their working within them. They dug down and exposed the rich pay layers of gravel at or near bedrock. In arid desert regions such as the Southwest, drywashers were used the most. The old-timers processed these rich pay streaks of gravel through crude drywashers. Due to inconsistent air flow, poor design and overloading resulted in poor recovery. Many of these drywasher tailing piles still contain sizable gold nuggets that can be recovered with modern day metal detectors. Many of the drywashers used half-inch minus hopper screens, so anything larger was discarded and formed coarse tailing piles. Many of these drywasher spoil tailing piles are still waiting for a detectorist to find them!! As metal detector technology continues to strive, more and more gold will continue to be found. New Online Store at - www. Although there are no guarantees, most customers find their first gold nugget, if not nuggets during our Arizona field instructions. We conduct most of all the field instructions at the famous Rich Hill, Arizona. This placer goldfield is one of the richest in the US. Purchase from someone that knows and uses the metal detectors and accessories they sell. We provide the same level of service and support as we would expect if we were the buyers. Give us a call anytime! During the winter months we are spending a lot of time in the field conducting field instructions with customers. We promise to get back with you ASAP. The GPX sets the new benchmark in gold detecting technology. With an amazing range of features and functions the GPX is not only superior to its predecessor, the GPX, and is in a class of its own. Using unique features, functions and industry leading patented technology ensure the GPX detectors run smooth and quiet in even the most severe ground conditions, whilst still maintaining excellent depth and sensitivity to gold nuggets. With more Timings than ever before, the 8 Timings available on the GPX change the digital switching and processing of the electronics in the detector. Each Timing has been designed for optimum performance under certain conditions, so it is like

having a different detector each time you select a new Timing. Not certain what Metal Detector might be right for you? Need help troubleshooting something you already own? See what electronic prospectors are really finding? Well you come to the right place! Join my gold forums to get in on the some of the top discussions about searching for gold nuggets throughout the US. Over 6, registered gold nugget, relic and treasure hunters are actively contribution to my Nuggethunting. Get all your answers here! We always have plenty of staff to answer all your questions about Minelab metal detectors or related metal detecting products. Call us today to order. Just over 14 ounces of Arizona placer gold nuggets show below. Just goes to show that gold is still out there and being found. Coiltek coils work on all the Minelab PI detectors. Call us for more details. This coil is only available in a 14x9 elliptical Mono at this time. Customers found their first gold nugget during field instructions. A must for the lower desert region nugget hunters. New - Tom H. Tom has many years experience as a prospector. Tom found his first small gold nugget during field instructions. This couple was new to metal detecting, but were quick learners and found their first AZ gold nugget. Fist Full of Gold Book This is one of the newest gold prospecting books on the market that covers A thru Z of gold prospecting and metal detecting. Jason found his first AZ gold nugget and now is off finding some nice nuggets. Best of the Best! They found their first gold nugget to boot during field instructions. This speaker is great for instructions or if you want to ditch the hot headphones and have quality audio. Can mount to the side of your metal detector. Pat purchased the Minelab GPX and found his first gold nugget during the instructions. Don also found his first Arizona Gold nugget with us. His smile says it all! Good friend, Jim P. Good friend, Gary B. Gary is a very successful nuggethunter. Thanks for your business and support! Don found his first Arizona gold nugget during the instructions. Wishing you much success in MT. Send mail to auplacers yahoo.

Chapter 7 : Gold Prospecting Tools and Equipment Reviews

In Electronic Gold Prospecting, Modern Pulse Induction Detectors and Performance Boosting, - we use two Minelab GZ's and one GP which Darren is.

Chapter 8 : Prospecting Equipment

Gold mining has a long history in Alaska, beginning with the Klondike Gold Rush at the end of the s. Even today there exist a variety of placer mining operations ranging from large commercial placer mines to stream panning by tourists.

Chapter 9 : Responsible gold | World Gold Council

Modern prospecting detectors can discover gold as small as a half a grain. As the size of the target becomes larger, gold nuggets can be located at significantly greater depths. A single grain nugget can be unearthed at a depth of inches.