OIL REFINERY TERMS IN OKLAHOMA

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The following list of words was collected by Arthur T. King, graduate student at the University of Tulsa, in the extensive refineries of Tulsa and Oklahoma City. No attempt has been made to collect field terms or common mechanical terms, but when such were found, they were included. Oil men have been very active during the last twenty-five years in compiling glossaries. The standard glossary is that found in *A Handbook of the Petroleum Industry*, by David A. Day, John Wiley, New York, 1922. All subsequent compilations have drawn heavily on this work. An excellent dictionary of oil terms, particularly for the Southwest, is the *Petroleum Dictionary for Office, Field and Factory*, 2d ed., by Hollis P. Porter, the Gulf Publishing Company, Houston, 1930. A more recent brief glossary is found in the January–February, 1944, issue of *Petroleo Interamericano*, published in Spanish by the *Oil and Gas Journal*, Tulsa, for Latin America. However, the oil industry has expanded so rapidly recently that any glossary soon becomes obsolete in many respects.

(D) or (P) after a term indicates that the term has the same meaning in Day or Porter; (PI), that the English term is listed (but not defined) in *Petroleo Interamericano*. When a term is general enough to appear in *Webster's New International Dictionary*, 2d ed., this fact is indicated by placing (W) after the term. It does not seem worth while to indicate the appearance of terms in other glossaries available. Approximately four hundred terms are listed and defined which are not found in the glossaries named above.

Although Mr. King secured most of his definitions from chemists in oil refineries or other persons in position to know, he sometimes quotes concise definitions from the glossaries. Occasionally when two glossaries are indicated as having the same meaning that he has, he quotes a definition from one of these without specifying which one. Some readers may wish that he had specified which work he quotes from; but he felt that the cumbersome repetition of an identifying symbol would not justify the slight information it would bring.

E. H. Criswell

absorb (D, P. W.): *v.t.* To take up by cohesive, chemical, or any molecular action, as when charcoal absorbs gases.

absorption (D, P): *n.* The action defined under *absorb* (*q.v.*).

absorption oil (D): *n.* An oil containing little or no gasoline, used to extract gasoline from natural gas. Since it absorbs compounds lighter than itself, it works well for this purpose.

absorption plant (PI): *n.* A refinery where the absorption process is employed.

absorption process (D): *n.* "The process of extracting gasoline from natural gas by passing the gas through . . . oil or charcoal. The gasoline is subsequently distilled from the absorbing medium and collected."

absorption tower (D): *n.* The tower in which natural gasoline is separated from natural gas. See *absorption process.*

a. c.: *n.* Abbreviation for *asphalt cement* (*q.v.*); generally used instead of the full term.

acid blow case (D): *n.* Same as *egg* (*q.v.*) and *acid egg.*

acid coke (D): *n.* Same as *coke* (*q.v.*).

acid egg (PI): *n.* Same as *egg* (*q.v.*) and *acid blow case.*

acid heat test (D): *n.* "The increase in temperature produced by adding commercial sulphuric acid to a petroleum distillate under standard test condition."

acid number (D): *n.* "The number of milligrams of potassium hydroxide necessary to neutralize the acidity of a one-gram sample of oil."

acid restoring plant (D): *n.* An auxiliary department of certain refineries, in which sludge acid is separated into acid, oil, tar, and weak sulphuric acid, with provision for reconcentrating the last to 93.5 per cent acidity.

acid sludge (D): *n.* Same as *sludge* (*q.v.*).

acid tar: *n.* Same as *sludge* (*q.v.*).

acid treatment (P): *n.* A treatment given in the *d. a. and a. t. unit* whereby asphalt is taken out of petroleum so that its end-products are improved.

activation: *n.* A process by which the action of a substance is increased or augmented; in petroleum refining the term applies to reactive power of a catalyst upon the product being refined.

additive gasoline: *n.* A gasoline improved by the addition of chemicals, such as tetraethyl lead and organic diaphenylamine.

ad. gasoline: *n.* Abbreviation commonly used for *additive gasoline* (*q.v.*).

additive oil: *n.* Oil that is chemically treated to inhibit the production of gum such as is formed by some lubricating oils during use.

ad. oil: *n.* Abbreviation commonly used for *additive oil* (*q.v.*).

adsorb (W)**:** *v.t.* To condense and hold a substance, usually a gas, on the surface of other bodies, usually solids, resulting in a relatively high concentration of the gas or solution at the point of contact.

adsorption (D)**:** *n.* The action defined under *adsorb* (*q.v.*).

aftercooler: *n.* A cooler installed in the line to cool the liquids that have just come from the top of the refinery tower.

agitate: *v.t.* To shake and mix in the agitator.

agitator (D)**:** *n.* "A mechanical apparatus employed in refining petroleum to keep the oil in constant motion when it is being treated with sulphuric acid. Agitation on a large scale is now performed by means of compressed air or by mechanical stirring."

air gas (D, W)**:** *n.* "A combustible gas made by saturating air with the vapor of some volatile hydrocarbon mixture, such as gasoline; used for lighting and heating."

alkali: *n.* A chemical or compound of chemicals possessing the ability to neutralize acids in petroleum, usually caustic soda. General chemical use in W.

alkali liquor (D)**:** *n.* "The spent liquor left after washing petroleum products, such as kerosene, with alkali. It usually contains phenols and sulphonates."

alkali wash (D)**:** *n.* The operation of cleaning petroleum of acid through the use of an alkali, usually caustic soda. Often refers to treatment of kerosene to prevent foul odors in burning.

alkylation: *n.* A process by which an isoparaffin is united with an olefine in the presence of a catalyst to form a product with a very high octane number.

alternating flux: *n.* A residual material resulting from the distillation of petroleum in alternating stills. The change has been alternated from low-temperature, low-pressure stills to high-temperature, high-pressure stills until all products of fuel and lubricating quality have been taken off, leaving a heavy, gummy, black residue used for paving.

alternating stills. *n. pl.* A series of stills varying in pressure and temperature through which petroleum is run when necessary to refine it properly.

anchor (PI): *n.* See *dead-man.*

anti-knock: *n.* Either tetraethyl lead or organic diphenylamine is called anti-knock. See *knock.*

anti-knock additive: *n.* Same as *gasoline additive* (*q.v.*).

A. P. I. (PI): *n.* Abbreviation for *American Petroleum Institute*; usually replaces the full term.

A. P. I. chain: *n.* A chain made to the specifications of the American Petroleum Institute.

A. P. I. gravity: *n.* American Petroleum Institute specification gravity.

apron ring (P): *n.* "The bottom ring of plates of a vertical tank or still." A common term among field, refinery, and construction crews and among the users of tanks.

aromatic base: *n.* A crude petroleum having a strong odor (from sulphur) and testing high in the benzine fraction. Also used to designate such petroleum itself.

asbestos clothing (PI): *n.* Petroleum fire-fighter's protective suit. With these clothes the fighters of hot petroleum fires may work closer to the base of the flames without being burned.

asphalt (D, W): *n.* "A brown or black bitumen obtained as a residue from petroleum."

asphalt base (D): *n.* The base of a crude petroleum yielding asphalt but no paraffin when distillation is complete. The residue is asphalt. The term is also used for the petroleum itself. See *paraffin base.*

asphalt cement (P): *n.* One of the heavy fractions of distillation used for binding gravel, sand, and other materials to form a solid ribbon of road surface, or to fill paving joints in concrete highways.

asphalt flux: *n.* A steam-refined fuel oil obtained from asphalt-based crude oil. Used whenever a heavy oil is needed for heating plants, boilers, railway engines, etc.

asphalt rock (D, W): *n.* A limestone or sandstone impregnated with asphalt. It lies where there is still present some petroleum of asphalt base, or where the oil has been dissipated leaving only the rock that has become saturated with the residuum that does not flow or vaporize. See *rock asphalt.*

asphaltic (D): *adj.* "Similar to, or essentially composed of, asphalt."

asphaltine (D) [æs'fɔltin]: *n.* Anyone of a varying number of soluble and insoluble asphalt products recovered from asphalt-based petroleums and used for roofing, flooring, paving, waterproofing, etc.

asphaltum (D): *n.* Same as *asphalt.*

A. S. T. M. distillation: *n.* Distillation according to the norm of the American Society for Testing Materials.

A. S. T. M. test: *n.* The test or tests meeting the approval of the American Society for Testing Materials.

a. t.: *n.* Commonly used abbreviation for *acid treatment* (*q.v.*).

attapulgus [ætə'pʊlgʌs]: *n.* A kind of clay found in the town of Attapulgus, in Texas. Oil authorities think it is an Indian word brought west by the Five Civilized tribes.

auger stem: *n.* A heavy iron bar attached just above the drill-bit in a string or set of tools used in boring oil wells.

back-out: *n.* Heavy rivet-like steel point especially adapted to removing rivets in steel construction.

back work: *n.* Heavy lifting in which the back is given hard use.

ball peen hammer (W: *peen*): *n.* A machinist's hammer the head of which is ball-like on one side and somewhat flat on the other. Common in many mechanical trades.

barefooted (P): *adj.* Used to describe conditions under which a well drilled into pay rock has sufficiently substantial formation to make casing, perforated pipe, or screen unnecessary.

barrel: *n.* A horizontal boiler shell containing fire tubes surrounded by water in small passages between the tubes.

barrel wrench: *n.* A length of hardened pipe, one end of which is slotted to match slots of pump valve seats, used to loosen or tighten valve seats. It is also called *seat wrench.*

base (D, P): *n.* "The residuum from the distillation of petroleums. When paraffin is obtained from the petroleum, the original oil is said to have a paraffin base; when the residue is entirely asphaltic, the original petroleum is said to have an asphaltic base."

bastard (W): *adj.* This term has a wide use in the petroleum industry as it has in many others. Anything irregular in shape,

size, or containing chambers of irregular capacity is said to be a bastard tool or piece of equipment: bastard tanks, wrenches, etc.

bastard car: *n.* A tank car with irregular capacity compartments.

batch: *n.* A quantity of oil such as the amount with which a still is charged, or a shipment of oil. W has the general meaning.

batch: *v.t.* To mix one batch of petroleum with another in an endeavor to improve the distillation of one. Most frequently heard as *batching*.

batch still (D)**:** *n.* A still that must complete its part of the refining process within itself without outward or inward flow during distillation.

battery (D)**:** *n.* "A series of stills or boilers set in continuous masonry."

Baumé scale (D) [bo'me]**:** *n.* An arbitrary scale indicating the relative density of liquids.

beater: *n.* A heavy (fourteen-pound) sledge used in beating steel plates apart, driving wedges, and for general heavy beating.

Beaumont oil: *n.* An old South Texas term for road oil. Named after the city Beaumont, Texas.

bed (D)**:** *n.* "The smallest division of a stratified series, marked by a more or less well-defined divisional plane, or change in soil formation. The change in formation may be evident to the eye, or it may need an analysis of soil."

bench (D)**:** *n.* "A ledge or terrace in a rock formation."

bend (D)**:** *n.* A curved length of pipe; usually applied to pipe with a greater curve than an elbow. Common machine shop and pipe fitter speech.

bend: *v.t.* To adjust a pipe to a curve, usually greater in degree than that of an elbow, in order to avoid the abrupt 90 degree elbow. Common to refinery shop men in the Tulsa area. Cf. *spring*, P.

benzene (D) [bɛn'zin]**:** *n.* A hydrocarbon of the composition C_6H_6, the initial member of the aromatic or benzene series. Used as fuel and as a paint remover.

benzine [bɛn'zin]**:** *n.* A cut of the naphtha run that is too poor in burning qualities to be used in internal combustion engines. It is used as a cleaning fluid or it may be rerun through a cracking plant to improve its volatility.

benzol[1] (in D but not in this sense): *n.* A product distilled from coal and used to dilute bottom sediments so that they can be "run."

benzol[2] (D): *n.* Same as *benzene* (*q.v.*).

biscuit cutter (P): *n.* A short, hollow cylinder (6 x 8 inches) sharpened at one end, for taking a core of earth from the ground for observation. When this is jarred into or through a formation, it cuts cores similar to biscuits but much larger. See *core*, *n.*

bit hook (P): *n.* A tool for straightening a lost bit in the hole.

biters: *n. pl.* Bars with scissor-like jaws used to straighten or bend angle-iron plates, steel sheets, etc., for tank repairing crews.

bitumen (D): *n.* 1. A general name for various solid and semi-solid hydrocarbons. 2. In the asphalt trade, defined as a mixture of native or pyrogenous hydrocarbons and their non-metallic derivatives which are soluble in carbon disulphide.

black gold: *n.* A term used for petroleum, which has often been more remunerative to its "miners" than gold.

black jack (D): *n.* Crude black oil used for lubricating skids, tracks, etc., where a more expensive oil or grease is not needed.

Black Magic: *n.* A heavy oil-base drilling fluid which hardens like cement and blocks off water but does not block off petroleum, in which it will dissolve. Now patented under the trade name "Black Magic."

black oil (D): *n.* A residuum from a wax-residual petroleum cracking still obtained from asphalt-free wax distillate. Differing from black jack in that it is an oil; it is used where heavy lubrication oil rather than a grease is indicated as on gears, cables, and railroad car journals.

blanket[1]: *n.* A very heavy canvas, in two layers, which has the double duty of retaining the filtering clay and of finishing the filtering process of highly refined oil. When this blanket begins to become discolored by impurities or has run the amount to be expected of it, it is removed and the filtering is transferred to another filter while another blanket and charge of clay are provided.

blanket[2]: *n.* A very heavy canvas tightly fitted over circular drumhead-like sections that are used in the wax-sweating press. As wax containing oil passes over or through, the lowered temperature causes the wax to solidify while the oil drips away. These

deposits of wax are allowed to build up until maximum deposits are obtained, and then the flow of wax-laden oil is turned into another press. The wax is then broken loose, blanket by blanket, with spud bars until the deposit is discharged, and then the process is begun again.

blast cap: *n.* An explosive piece of metal shell containing a highly explosive charge used to detonate larger charges of explosives. Common elsewhere.

bleed[1]**:** *v.t.* To reduce the pressure in a petroleum well by opening a valve at or near the casinghead.

bleed[2] (D)**:** *v.t.* To draw off samples of the liquid contents of a petroleum tank so that they may be tested. The bleeding is done by means of valves in pipes leading from the tanks.

bleeder (P)**:** *n.* Valve by which a line is drained to make sure that too much moisture does not accumulate in the pipe.

blend (D: *blending*)**:** *v.t.* To mix various petroleum products to secure a desired end product, especially oils.

block-off: *v.t.* To shut out water by means of mud, cement, Black Magic, or other materials. See *mud-off.*

block valve: *n.* Same as *gate valve* (*q.v.*).

bloom (D)**:** *n.* "The fluorescence of petroleum and its products, especially lubricating oils."

bloom of oil (PI)**:** *phr.* Cf. *fluorescence* PI.

blow-down a boiler: *phr.* To force steam or air from the back end of a boiler in an endeavor to blow the minerals, salt, alkali, etc., out of the bottom so that they will not form a thick deposit, which would lower the efficiency of the boiler. See *continuous blow-down.*

blow-down a trap: *phr.* To empty a scrubber tank or tower by force of compressed air or steam. See *trap.*

blow-out: *n.* A sudden violent outburst of any vessel under pressure, such as pipe, still, or gas line. Cf. *blow-out,* D.

blowing still: *n.* A still within which residual hydrocarbons are reduced by being blown through the many bubble trays on the way to the top to cool so that only the grades of vapor wanted will reach the top and go into the condensing chamber. The number of the trays and the temperature of the liquids flowing from tray to tray govern the quality of the fuel coming from the still and fractionating tower.

blow line: *n.* A high pressure air line used to clean out pipe

lines that have been coated by the oils carried by these lines. The heavier the oil, the more often the line must be blown.

blown asphalt: *n.* Asphalt produced by blowing with air which oxydizes the residual hydrocarbon from which it is made.

blue gas: *n.* A mixture of propanes, butanes, and pentanes, which, under pressure, liquefies. A very volatile mixture sold in steel cylinders or bottles, used for light, heat, and power purposes; sometimes loosely applied to propane or butane.

blue oil (D, W)**:** *n.* A mixture of heavy oils and paraffin obtained in the distillation of ozokerite, a native mineral wax.

b. o.: *n.* Abbreviation for *back-out* (*q.v.*); generally used instead of the full term.

body (P)**:** *n.* Gravity or viscosity, the thickness or consistency of oil, often determined by the rapidity with which it flows through an aperture of a given size at a given temperature, expressed in seconds.

bomb: *n.* A very strong metal case by which samples are obtained from stills under pressure by fastening the case to an outlet from the still and turning the liquid into it.

bond: *n.* A union of elements or substances which blend or weld satisfactorily.

bond: *v. intr.* To blend or mix well; used of oils.

boomer (P)**:** *n.* Any strong steel lever-like instrument by which the chains about a number of loose pipes are made taut so that the pipes are held or bound tightly on a truck for safe hauling.

boot: *n.* A valve at the bottom of a tank car through which its contents are transferred to other vessels, tanks, stills, etc. So called because of its shape.

boot cap: *n.* A metal threaded cap that is screwed on to the boot after that valve has been tested during the filling of the tank. Since the casinghead gasoline hauled in the tanks is easily ignited, the shippers make sure that if the valve may become opened through the jars and twists of a freight haul, this inflammable liquid shall not escape.

boot-jack (D)**:** *n.* A forked fishing tool with which drillers seek to retrieve lost drills, etc., deep within the drilled hole. See *bulldog*, *spear*, *cherry picker*, *mousetrap*, and *yoke*.

bottoms[1]**:** *n. pl.* Sediments in tanks and stills in field and refinery, including dirt, water, and thick gummy worthless material; also known by the initials *b.s.* and *b.s. and w.*

bottoms[2] (D): *n. pl.* The crude distillate left in the bottom of a still after distillation; that part of the crude which does not vaporize during distillation processes.

bottom settlings (D): *n.* Same as *bottoms*[1] (*q.v.*).

bottom sheets (D): *n. pl.* The steel plates forming the bottom of an oil still or tank.

break-down: *n.* An analysis of crude oil by chemists to predetermine the proportions of gasoline, kerosene, etc., to be expected from its distillation.

break it down: *phr.* Same as *break it up* (*q.v.*).

break it up: *phr.* To give a complete analysis of crude oil. By this break-up the refinery predetermines the value of the crude oil and the proportions of gasoline, kerosene, etc., to be expected from its distillation.

break-out: *v.t.* To pull pipe, rods, or casing from the well and to unscrew the pipe into the lengths permitted by the height of the derrick. This action also includes fastening and loosening the hoisting pulley grip, and standing the pipe, tubes, or casing within the derrick tower ready for replacement.

break-up: *n.* Same as *break-down* (*q.v.*)

breathing (P): *vbl. n.* The flowing of oil by pulsations when pressure is not adequate to ensure a steady flow. The flow will pulsate in a succession of condensations and rarefactions until the pressure is built up sufficiently to create a constant flow. Pressure is obtained, as a rule, by forcing gas into the well or the pipe line.

bright stock (P): *n.* A heavy, de-waxed lubricating oil with a viscosity so high that it must be blended back for use in motors. See P for long discussion.

briquet, briquette (W) [brɪ'kɛt]: *n.* A mass of coal dust compounded with asphalt and then pressed into a block.

briquet (D) [brɪ'kɛt]: *v.t.* To compound asphalt with coal dust or coke (slacked) and then press the material into blocks called briquets. The usual formula calls for six to nine per cent of asphalt.

briqueting asphalt: *n.* An asphalt used as a binder for slack coke in making briquets. See *briquet*, *v.t.*

b. s.: *n.* Abbreviation commonly used for *bad* or *bottom sediments* (*q.v.*). See *bottoms*[1].

b. s. and w.: *n.* Abbreviation commonly used for *bad*, or *bottom sediments* (*q.v.*) and water. Same as *bottoms*[1].

bubble cap: *n.* Metal cap with small slot or opening in it allowing the vapor bubbles in a bubble tower to contact cool liquids and to go higher and collect into larger bubbles nearer the top of the tower.

bubble deck: *n.* The steel plate or tray on which are the cooling caps where stilling vapors bubble, then rise to bubble from deck to deck to the top of the tower.

bubble plate: *n.* Same as *bubble deck* (*q.v.*).

bubble point: *n.* Temperature at which distilling products form bubbles of vapor on the bubble caps of the bubble tower.

bubble tower: *n.* A vertical type of still equipped with bubble trays and cups in which lighter fractions rise and are taken off at the top.

bubble tower overhead: *n.* Vapor or liquid streams flowing from bubble towers, called overhead whether vapor or liquid because they are over and higher up than other products of the same distillation.

bubble tray: *n.* Same as *bubble deck* and *bubble plate.*

bucket: *n.* A body for a dump truck that looks like a large inverted pyramid. On either side of the upper part of the body of these buckets is the ball part of a ball-and-socket joint by which the bucket is lifted and held in place by the socket joint of the truck chassis. Thus supported, the bucket is carried to the dumping or loading scene. One truck may handle several buckets by leaving the empty ones to be filled while it empties and returns the loaded body. See *lug* and *lug-holder.*

bull (W)**:** *adj.* A widely used adjective denoting toughness, strength, or size, whence the names *bull pump, bull rope, bull wheel* (*qq.v.*), etc., as used in the industry.

bulldog spear (P)**:** *n.* Tool for fishing in a well for lost tools where grip is to be obtained by rapid drop. The grip tightens as the weight of the tool pulls against the jaws of the spear. See *boot-jack, cherry picker, mousetrap,* and *yoke.*

bull plug (D)**:** *n.* "A plug temporarily screwed onto the end of a section of pipe line to keep dirt, water, and small animals out until the ends are welded."

bull pump (D)**:** *n.* A very heavy pump used in the production field and in refineries for forcing oil from the well to the storage tank or from tank to tank.

bull rope: *n.* A strong rope for lifting and dragging.

bull wheel (D): *n.* "A large rope-driven pulley, hitched by rope to the main shaft of the rig, used to raise or lower the bit or fishing tools, or casing." Used in other industries.

bump[1]: *v.t.* To take the job of a man who has a lower seniority, a practice followed in oil refineries as well as in other trades.

bump[2] (D): *v.t.* To cause to boil violently. Boiler men bump the charge when it is necessary to free petroleum from certain elements, such as water. See D: *bumping.*

bumped head: *n.* A concave or convex boiler or tank end. First used of ends which were pushed in, the term is now applied to either concave or convex ends. Also called *dished head.* See *head*[2].

burning point (D): *n.* "The temperature at which a volatile oil in an open vessel will ignite from a flame held close to its surface, and continue to burn. Used to determine the safety of kerosene and other illuminants." See *fire test.*

butane (W): *n.* A hydrocarbon product of natural gas or petroleum. See *ethane, methane, propane,* and *specification gasoline.*

button up: *v.t.* To put bolts on removable plates to close or tighten the plates against pressure loads. See *head up.*

by-product (D, W): *n.* A secondary or additional product.

calf wheel (P): *n.* A drum usually operated by chain and sprocket from the main shaft of a rig; used in raising and lowering a string of casing. Probably borrowed from nautical speech.

canal wrench: *n.* A long-handled shovel often used in ditch-digging. Those who use this implement dignify it by calling it a tool or a wrench. Skilled mechanics call it an *emblem of ignorance* (*q.v.*). See also *idiot stick.*

car oil (D): *n.* "Black lubricating oils designated as low cold-test black oil, etc."; used to grease axles on railroad cars.

carbenes (P): *n. pl.* "Constituents of bitumens which are soluble in carbon bisulphide but not in carbon tetrachloride."

carbon black (D): *n.* Same as *lampblack* (*q.v.*).

carbon oil (D): *n.* A trade name for kerosene (*q.v.*).

carbon tetrachloride (P, W): *n.* A colorless non-inflammable fluid used as a solvent and a fire extinguisher.

casinghead (D): *n.* The top of the casing which is a few feet above the surface of the earth and forms the last length of casing of an oil well. It is here that the *Christmas tree,* with its several outlets, valves, etc., is found.

casinghead gas (D): *n.* Gas which comes from the casinghead of oil wells.

casinghead gasoline (P): *n.* Gasoline coming off natural gas at the casinghead. It is not a properly balanced gasoline for high compression motors of today, but it makes a good blending stock and refines well.

cat.: Abbreviation for *catalyst* (*q.v.*). Used more often than the full term.

catalyst (D): *n.* The chemical agent in the presence of which petroleum products are cracked. See *cracker* and *catalyst cracker.*

catalyst cracker: *n.* A still which employs both heat and a catalyst in the cracking process, which makes high octane gasoline. Cf. early use of term, D.

cat. distillation: *n.* Abbreviation for *catalyst distillation* (*q.v.*).

catalyst distillation: *n.* Distillation in which both heat and a catalyst are used.

cat-head (D): *n.* A winch head on a well-drilling tower used for hoisting machinery outside the tower as contrasted with the usual ropes, pulleys, etc.; used within the four sides of the tower for various raising and lowering operations. See *cat-line* and *rotary rig.*

cat-line: *n.* A line smaller than the heavy cables used on heavy well equipment; used to raise and lower lighter tools about a rig during the drilling of wells.

cement: *v.t.* To force cement through a pipe down to the bottom of the string of casing so that it comes out of the lower end of the pipe and pushes up around the pipe holding it in place. The force of air cleans the cement from the pipe, leaving it open.

centrifuge (D): *n.* A machine which separates liquids of different specific gravity by centrifugal force.

centrifuge stock (D): *n.* Wax obtained by the use of the centrifuge. It has a higher melting point than that obtained by cold settling.

cetane number ['siten]: *n.* A measure of the ignition properties of Diesel fuel, determined by a measuring device which registers the ignition properties by numbers.

charge: *n.* A load of petroleum in any container around a refinery such as a tank car, a tank, a still, or a fractionating tower.

charge: *v.t.* To load a tank, tank car, still or other container with petroleum products or any substance that has to do with the refining process. Loading devices are called *charging* devices.

charging belt: *n.* The belt that receives clay from the dump truck and conveys it to the top of the clay ovens, where it is fed into the flames for purifying.

charging jitney: *n.* A mechanical device which takes the burning hot clay from the ovens and conveys it to the charging belt that carries the fire-purified clay to the spider, which in turn loads or charges nearby filters or conveyor belts. See *spider*[2].

cheater: *n.* A short length of pipe slipped over a smaller wrench so that more leverage may be obtained without getting a larger wrench. The user is therefore "cheating" on the written guarantee of the wrench manufacturer.

cheese box (D)**:** *n.* The early type of vertical cylinder oil stills that squatted down over their fire boxes looking like large round cheese boxes. The few left are used in the distillation of kerosene. Apparently none were ever used in Oklahoma, though refinery men remember them from fields in the East, where some are still found.

cherry picker (D)**:** *n.* A fishing tool used to grasp and recover round lost tools or equipment in wells. See *boot-jack*, *bulldog spear*, *mousetrap*, and *yoke*.

Christmas tree (P)**:** *n.* Multi-branched connections at the top of a well pipe or casing, four to six feet above ground. When a well is finished various types of opening or connection outlets are needed for operating it so that the most oil possible will be brought out. The device resembles a tree to some extent, with its various branches, and it ensures somebody a good Christmas.

Christmas tree assembly (P)**:** *n.* The Christmas tree with all of the attachments made.

claroline (D)**:** *n.* "A mineral oil used as a solvent for natural gases."

clay: *n.* This is the refiner's term for fuller's earth. The trade name is *attapulgus*; also called *percolating clay*. Used as a filter for purifying petroleum products.

clay revivifying system (D)**:** *n.* A method by which clay is cleaned for use again. See *wedge burner*.

clay wash (D)**:** *n.* A method used to improve color or odor of an oil by agitating it with fuller's earth or other clay.

clean out: *v.t.* To knock the coke formations off bubble trays of fractionating towers. The same term is used when the whole system that makes up the thermal stills is cleaned.

cloud point: *n.* The temperature at which wax suspended in oil cooling from distillation begins to congeal and create a cloudy appearance within the oil.

cloud test (D): *n.* A test that shows the temperature at which paraffin or other solid substances in petroleum begin to crystallize. Crystallization causes a cloudy appearance in the oil being tested, whence the name for the test.

coal oil (D): *n.* Oil made from coal. The general public mistakenly considers kerosene to be a syononym for coal oil. Coal oil is made from coal, but kerosene is one of the fractions of petroleum.

coat: *n.* A covering or coating deposited within the container by the oil or petroleum product stored or stilled. Distillation usually leaves a thick coating or film on the walls of the still. When reduction by heat continues without steam, the coat becomes a coke-like substance, is called coke, and is so used. Same as *pressure coat* (*q.v.*). See *coke.*

c. o. bottles: *n. pl.* Bottle-shaped steel carbon dioxide containers, also called *c.* o_2 *bottles.* A precaution against fires, which may break out at any time in a refinery.

coke: *n.* A by-product obtained in treating dry-run tar at high temperatures with sulphuric acid, also called *acid coke.* A soft solid coke containing free carbon, complex, heavy hydrocarbons, free sulphur, and sulphuric acid, used for the same purposes as coal coke. Cf. *petroleum coke,* D.

cold pressing: *n.* Process described under *sweat* (*q.v.*).

cold settling (D): *n.* "The process by which, by virtue of difference in specific gravity, a petroleum product, solid at the temperature used, is separated from an enveloping liquid petroleum medium. Usually refers to the separation of amorphous wax at low temperature from a naphtha solution of filtered steam-refined stock."

cold test (D): *n.* "A test applied to lubricating oils in order to ascertain their power of withstanding low temperatures without solidifying or depositing paraffin."

combination gas (D): *n.* "Natural gas rich in oil vapors." See *wet gas* and *casinghead gas.*

compound oils (P): *n. pl.* "Mineral oils which are mixed with animal or vegetable oils to increase viscosity or adhesion."

condensate (P): *n.* A liquid produced by a refinery from vapors

that came from the well in the form of gas. The refining process condenses it.

condenser (D): *n.* "An apparatus for liquefying vapors by cooling only."

contact: *n.* An operation wherein 200-mesh clay is added to acid-treated stock to purify the oil. Oil is said to go through the contact.

contact[1]**:** *v.t.* To run acid-treated stock through 200-mesh clay for the purpose of purifying the oil.

contact[2]**:** *v.t.* To treat petroleum with acid by bringing the two into contact.

contactor: *n.* The vessel or piece of equipment used in contacting two substances. See *contact*[2], *v.t.*

contactor treating process: *n.* The treatment defined under *treat* (*q.v.*).

continuous battery still: *n.* A number of cylindrical stills lying horizontally, each successive still of which is heated to a greater degree than the previous one. Pressures are also proportionally raised. At each still the higher volatile contents of the charge are drawn off until only the lowest fraction is left.

continuous blow-down: *n.* The act of flowing scum off the top of the water in a boiler by means of a continuous stream of air. The scum, as a rule, contains minerals that might be deposited on the inside of the boiler, thus lowering its efficiency.

copper sweetening process: *n.* The process of sweetening or desulphurizing by the use of copper.

core (D): *n.* A round core, or biscuit-like section, of the pay sand cut and brought up to the surface by the biscuit cutter for testing.

core: *v.t.* To use the biscuit cutter in the pay zone so that a core or large biscuit-like part of the pay sand or rock may be brought to the surface for testing.

core bit (D): *n.* Same as *biscuit cutter* (*q.v.*).

core drill (D): *n.* A diamond or other hollow drill used for securing cores.

corrosion and gumming test: *n.* Test to determine free acid in an oil by evaporation.

cotton-picker: *n.* Same as *pea picker* (*q.v.*).

crack[1] (D): *v.t.* To break up, through the application of heat

and pressure, complex hydrocarbons composing petroleum into lighter hydrocarbons of simple molecular formulae. Gasoline with a high boiling point may be thus treated and the point lowered to make a better burning gasoline.

crack[2]: *v.t.* To open a valve very slightly so that the desired flow of liquid may be obtained. Cf. *American Dialect Dictionary*, Wentworth, for other similar uses.

cracked distillate (P): *n.* The distillate of a cracking unit. See *crack*[1].

cracked distillate rerun plant: *n.* The plant in which cracked distillate is rerun.

cracked valve: *n.* A valve which has been opened or cracked. See *crack*[2].

cracker (D, P): *n.* A length (usually about 100 feet) of Manila cable inserted between the tools and the wire line to furnish the desired elasticity in drilling.

cracking still: *n.* A still in which the cracking process is carried on. See *crack*[1].

cross-over: *n.* A few feet of pipe connecting a coil in a pipe-still to a coil in another still or fractionating tower.

crow foot bar: *n.* A heavy steel bar about four or five feet in length, having two prongs, or toes, at the heavier end, which is curved for the purpose of pulling spikes and heavy nails.

crown sheets (D): *n. pl.* The upper or top ring of steel plates of a vertical petroleum still; sometimes applied to the upper steel plates of oil tanks, whether in the field or refinery.

crude[1] (D): *n.* Short term for *raw petroleum*. See *crude*[2].

crude[2]: *n.* Sometimes applied to the residuum of the distillation process after the high fractions have been run off, leaving a dark, gummy substance.

crude naphtha (D): *n.* Unrefined petroleum naphtha.

crude oil (D): *n.* Petroleum.

crude mineral oil (D): *n.* Petroleum.

crude petroleum (D): *n.* Raw petroleum as it flows from the well.

crude shale oil: *n.* Crude oil obtained from shale saturated with petroleum. Cf. *shale oil*, D.

C's (PI): *n. pl.* C_4's is the symbol generally used to designate butanes and butenes; C_5's, pentanes, pentenes, and pentadienes;

C_6's, hexanes, hexenes, and hexadienes; C_7's, heptanes, heptenes, and heptodienes; C_8's, octanes, octenes, octadienes, and xylene. Named from the carbon content in the chemical formulae.

cut: *n.* A division of gasoline or other petroleum products that has been cut. If it has been taken from the upper part of the fraction, it is a high cut. If it is taken from the lower part of the product, it is a low cut. Cf. *cut, adj.*, D.

cut: *adj.* Any petroleum product is said to have been cut if it has been taken from one portion or level of a major fraction of the product. See *cut, v.t.*

cut: *v.t.* To separate a fraction of petroleum distillation into more than one product by taking off the top or the bottom or some from the central portions. Each product of petroleum is known as a fraction. When the fraction is divided, it is cut.

cut-back asphalt: *n.* A residual oil that has been thinned with lighter substances such as kerosene or naphtha so that it is liquid enough to pour. This is paving asphalt as used in Oklahoma. Cf. *cut-back products*, D.

cut-back products (D)**:** *n. pl.* Petroleum or tar residues which have been fluxed, or thinned each with its own or similar distillates.

cut-back tank: *n.* A tank in which naphtha and an asphalt are blended.

cut-point: *n.* A specified temperature during distillation at which the fraction to be cut reaches the right degree of temperature and elevation in the still or tower for the proper fraction to be run off at the given level.

cymogene (D) ['saɪmodʒin]**:** *n.* At one time the lightest product obtained from petroleum; it was used as a local anesthetic, and is employed as a refrigerant in certain types of refrigerating machines.

d. a.: *v.t.* Abbreviation for *de-asphalt* (*q.v.*); often used instead of the full term.

d. a. and a. t. unit: *n.* Abbreviation for *de-asphalting and acid treating unit* (*q.v.*); generally used instead of the full term.

damp-proofing: *n.* An asphalt that is prepared for the purpose of coating concrete, etc., below ground levels to prevent seepage of moisture. Also called *damp-proofing asphalt.*

damp-proofing asphalt: *n.* Same as *damp-proofing* (*q.v.*).

dead-man (W)**:** *n.* A buried anchor or stay of wood, concrete,

or steel used to support towers, poles, stacks, or anything that needs a brace against strain. Used generally elsewhere.

deadwood (D): *n.* Any permanent material in a tank that displaces volume, such as coil supports, swing-pipes, etc.

de-asphalt: *v.t.* To remove asphalt from an asphalt residual petroleum.

de-asphalting and acid treating unit: *n.* A section of the distillery apparatus in which asphalt is removed from asphalt residual petroleum early in the refining process.

decolorize (D): *v.t.* "To remove suspended, colloidal, and dissolved impurities from liquid petroleum products by filtering, adsorption, acid treatment, or redistillation.

decomposition (D): *n.* "The breaking up of compounds into simpler chemical forms."

deflegmation: dephlegmation [dɛflɛg'meʃən] *n.* The process described under *deflegmation tower* (*q.v.*).

deflegmation (**dephlegmation**) **tower** [dɛflɛg'meʃən]: *n.* At one time the name for a fractionating tower. As a rule, the name is now applied to a certain type of fractionating tower cooler, for vapors coming from the fractionating process. Original meaning of *v.*: "to remove flame."

deflegmator, dephlegmator (PI) ['dɛflɛgmetɚ]: *n.* Same as *deflegmation tower.*

degassing tower (PI): *n.* The refinery tower in which oils are freed of removable gases.

dehydrate (D, W): *v.t.* To render free from water.

dehydrator (D): *n.* An apparatus in which water is removed from oil. This may be accomplished by: (1) settling and gravitational separation, (2) centrifugal separation, (3) boiling off the water, (4) the use of electric currents of high voltage which break down the emulsion and permit gravitational settling.

densimeter (D) [dən'sɪmətɚ]: *n.* An apparatus for determining the specific gravity or relative density of a substance.

de-wax: *v.t.* To remove as much wax as possible from lubricating oils to prevent gumming.

de-odorized naphtha: *n.* Naphtha from which the odor has been removed, an excellent fluid for cleaning.

dew point (W) [dju,du]: *n.* The temperature point and the proper pressure at which vapor condenses and falls. In distilla-

tion high-end points all vaporize and then condense in the proper chambers arranged to suit the dew-point of the product desired.

d. f.: *n.* Abbreviation for *Diesel fuel* (*q.v.*), a term used much by petroleum chemists for the full term.

diamond point: *n.* A hard steel point with which refinery construction crews gouge out rivets from rivet holes in sheet steel or construction steel.

di-electric: *n.* An oil used as an insulator and a cooler in a transformer, so called because it does not conduct electricity. It must be completely free of moisture.

die nipple (D): *n.* A threaded tool used in recovering drill pipe. It acts as a die, cutting threads on the lost pipe, then lifts the pipe by the new hold it has threaded into the upper end of the lost pipe.

Diesel fuel (P): *n.* "A fuel oil suitable for use by Diesel oil engines, of a gravity range between 27° and 30°."

digester: *n.* A large chamber of pipe in a thermal cracking still which is part of the line of pipe from the heater. In cracking petroleum there are three important factors: heat, time, and temperature. The digester furnishes the time element by holding the liquid in the same heat for the proper amount of time. See *crack*[1].

Dinkey (W): *n.* Small shuttle railway engine belonging to the Mid-Continent Refinery Company, once used but now only a museum piece in this great modern plant.

dished head: *n.* Same as *bumped head.*

dish-bottom tank: *n.* Tank with concave or saucer-like bottom, which makes the draining off of the fluid, whether water or petroleum, easier.

distillate (D, W): *n.* In general, the product of distillation. Specifically, various fuel oils ranging from heavy light-colored oil to kerosene.

distillation (D): *n.* "Process of separating volatile fluids from a heavier fluid by evaporation and condensation."

divining rod (D, W): *n.* Any one of several types of rods, tree twigs, or branches, etc., used by some oil prospectors to determine the location of oil pools. Of course, these have no standing with geologists. See *doodlebug.*

doctor: *v.t.* To treat by addition or subtraction of certain properties. For instance, plumbite and an elementary sulphur are used extensively in testing or treating "sour" gasoline.

doctor test (D): *n.* A test made with sodium plumbite to determine whether or not gasoline or oil is sweet or sour, that is, whether it contains hydrogen sulphide or mercaptan.

doctor treatment: *n.* The treatment of "sour" petroleum products with sodium plumbite.

doctor's solution (P): *n.* Sodium plumbite, used in making the doctor treatment, which removes unpleasant odor from oil. P: *doctor solution.*

dog (W): *n.* A heavy steel bar with triangular rigid jaws for wedging steel plates together when welding or riveting.

dog clutch: *n.* A clutch that turns the shaft by a series of three or four teeth or cogs on one member which engage slots to match on the second member.

dog leg (D): *n.* Drillers' name for a short bend or crook in a wire cable that is supposed to be straight.

dolly bar (W): *n.* A big heavy bar or shafting swung by a chain or other support and used to back up rivets while they are being driven.

doodlebug (W): *n.* Same as *divining rod* (*q.v.*).

dope[1] (W): *n.* Information, instructions for operations in a refining analysis of raw or refined products. The term is used especially in the laboratory section of the refinery but somewhat throughout plants. W has general sense.

dope[2]: *n.* Sticky grease. Also applied to muss. Cf. old term, *wagon dope* for *axle grease.*

down-flow spout: *n.* Another term by which the outlet portion of the weir on the trays of a bubble tower is known. When the oil in the tray reaches the proper level on the slots of the bubble caps, these down-spouts allow it to flow on to the next tray.

dress (D, W): *v.t.* To sharpen a drill bit so that it is brought to the proper edge, diameter, and gauge.

dresser: *n.* The person who sharpens drills or cares for drill bits and other drilling tools.

dribble blending: *vbl. n.* Blending oils by allowing the products to be dribbled together drop by drop at a given temperature. Some oils will not otherwise blend.

drill the plug: *phr.* To use a well drill to destroy the plug placed in a well after it has been drilled in, so that the hole may be opened. This is done as a rule just prior to bringing the well into production.

drill in (P): *v.t.* To bore into pay sand until the proper level is reached at which the well will best produce. After a well is drilled in, drilling ceases.

drip[1] (D): *n.* An apparatus usually consisting of four vertically placed iron tubes at the top of a natural gas well to extract oil and water coming with the gas from the casinghead. Both liquids are always present in gas.

drip[2]: *n.* A small tank in a low place in a gas line into which liquids such as water and gasoline in the main line drip as they drain to the low place.

drip gasoline: *n.* Gasoline that drains into the drip at the casinghead.

drop point: *n.* Temperature at which a piece of material such as asphalt or wax will drop from a standard support under specific conditions.

drowned well (D): *n.* An oil well that has been spoiled for production because of water.

drumming shed: *n.* A building in which asphalt is poured hot into the drums or other containers and allowed to cool and harden.

dry oil: *n.* Oil which has been subjected to various heat and filtering processes to make sure there is no moisture left in it.

dry point: *n.* The point at which oil is made entirely free from moisture by the use of heat and processing. See *di-electric.*

dry run tar: *n.* A sticky product of distillation closely allied to fuel oil, secured from an earlier form of distillation without the use of steam.

ductility (P): *n.* The elasticity of asphalt measured in centimeters at a given rate of speed.

dust-laying oils (D): *n. pl.* "Crude oils, heavy asphalt oils, tars, solutions of petroleum asphalt in gas oils, liquid asphalt, and emulsions of oils and water, used for laying dust on roads."

duster: *n.* A well bored for oil or gas which does not produce enough to pay cost of operation.

earth oil (D): *n.* Petroleum.

easy bench: *n.* Any handy bench, box, etc., where a refinery employee may take a few moments of rest during operations that do not need attention at that time. See *spot time.*

eduction pipe (D): *n.* "The exhaust pipe from a low-pressure cylinder to the condenser."

eduction tube (PI): *n.* Same as *eduction pipe* (*q.v.*).

egg: *n.* A small cast-iron egg-shaped tank from which sulphuric acid used in the treating of petroleum during refining is blown by compressed air to the agitator.

emblems of ignorance: *n. pl.* Picks and shovels are so called by the machinists around the Mid-Continent Refinery at Tulsa because, they say, only one who is ignorant would continue to use such equipment. See *canal wrench* and *idiot stick*.

emulsification (D): *n.* "The act of making or causing an emulsion."

emulsification test (D): *n.* "A test conducted for the purpose of obtaining information in the laboratory as to the emulsifying tendency of oils under service conditions."

end: *n.* Refined products are conceived of as end-products, completed products, although they may be further blended or cracked. Gasoline, kerosene, etc., are the lighter ends, but each may be cut or rerun.

end point (D): *n.* The maximum temperature that a given fraction reaches at the time the distillation process is completed.

Engler distillation: *n.* A sampling process of distilling small quantities of petroleum to test various distillation points before general distillation; similar to that developed by Engler, in Germany.

Engler distillator: *n.* Type of flask used in Engler distillation.

ethane (P) ['εθen]: *n.* A chemical compound, C_2H_6; a hydrocarbon product of natural gas and/or petroleum. See *butane*, *methane*, *propane*, and *specification gasoline*.

ethyl: *n.* A short term for *tetraethyl lead* (*q.v.*). Also used for *ethyl gasoline*.

ethyl gasoline: *n.* A gasoline to which tetraethyl lead fluid has been added to meet the specifications set up by the Ethyl Corporation of America.

ethylene (D): *n.* "A colorless gas (C_2H_4); first member of the unsaturated C_nH_{2n} series of hydrocarbons. It has a sweetish odor and taste and is frequently a product of destructive distillation."

evaporation test (D): *n.* "A test applied to volatile petroleum products to determine the completeness or rapidity of evaporation."

exchanger: *n.* A shell enclosing bundles of tubes through

which hot oil leaves the still and pours into the tank. Cold crude oil flows in the opposite direction around the hot pipes extracting the heat from the hot oil, whence the term *exchanger*.

exhaustion (D): *n.* "The process of completely extracting from a substance whatever is removable by a given solvent."

extraction (D): *n.* "The process of separating by solvents or distillation the desired part of a complex mixture from the undesirable residue."

eyeball: *v.t.* To sight a pipe to test it as to its straightness or length, without the use of any instruments. *To eyeball a pipe* is a common expression.

fat asphalt (D): *n.* "A mixture in which the excess of asphalt cement is clearly apparent."

f. b. p.: *n.* Commonly used abbreviation for *full boiling point* (*q.v.*).

feather bar: *n.* A bar machined to a thin edge made to wedge into small crevices. This bar and its name were invented, it is believed, by an employee of Mid-Continent, Tulsa.

female joint (W): *n.* That part of a joint that fits over another part of a total joint. The joint may be the ball and socket type or it may be a straight slot or slit, but the female member must slip over or receive the male joint.

filtered stock (D): *n.* "Lubricating stock that has been filtered through fuller's earth or any other medium."

finish (D): *v.t.* To prepare oils for a specified use.

finished distillate: *n.* The finest fuel oil, made for a number 1 burner.

fire point (P): *n.* Temperatures at which a petroleum product will burn continuously as contrasted with the sudden flash point, at which the product will flash into explosion.

fire test (D): *n.* A test to determine how readily a product will fire or burn continuously. Since most petroleum products are used under heated conditions, refiners must know the results of the fire test on practically all of their products.

fish (D, W): *v.t.* To attempt to recover lost tools in an oil well. See *boot-jack*, *bulldog spear*, *cherry picker*, *mousetrap*, and *yoke*.

fish scale (PI): *n.* Lime, rust, or oxygen scales which resemble fish scales and which form on pipes, etc.

fixed gas: *n.* Gas which does not condense at ordinary pressure and temperatures, such as the methanes and ethanes, as opposed to butanes and propanes.

flash: *n.* The sudden ignition of petroleum products. See *flash, v.i.* and *flash point, n.*

flash: *v.i.* In reference to oil products: to ignite suddenly or explosively and go out. *Fire,* on the other hand, means to flash and continue to burn until inflammable material is consumed.

flash gasoline: *n.* Gasoline that comes from crude oil without being heated beyond the temperature at which it leaves the well; natural gasoline.

flash point (D)**:** *n.* The degree of F. temperature at which a petroleum product will flash.

flash test (D, W)**:** *n.* Use of heat to determine the degree at which a petroleum product will flash.

flash test: *v.t.* To test a petroleum product to determine at what degree of heat it will flash.

flat-roof asphalt: *n.* An asphalt roofing treated so that it is suitable for a flat roof. See *steep-roof asphalt.*

floc, flock (P) [flɑk]**:** *n.* "Any small tufted or flake-like mass of matter floating in a solution, especially if produced by precipitation."

floc, flock test (D)**:** *n.* Short for *flocculent test* (*q.v.*).

flocculent (D) ['flɑkɪulənt]**:** *adj.* "Resembling wool, coalescing, and adhering in flocks, describing a cloud-like mass of precipitate in a solution."

flocculent test (D, W)**:** *n.* A qualitative test applied to illuminating oils for the detection of substances rendered insoluble by heat and heat pressures.

flog: *v.t.* To beat steel in an endeavor to separate riveted or welded seams.

flogging hammer: *n.* A rivet maul used for riveting or flanging steel plates. Also used when it is necessary to separate riveted or welded seams.

flotation oil (D)**:** *n.* "An oil used for flotation purposes in ore separation, usually a pine oil or turpentine or a coal-tar derivative, although petroleum products have been successfully used for flotation purposes."

flow chart: *n.* The complete chart of the refining process of

crude from the time it reaches the refinery until it is shipped out a finished product. The chart gives a graph-like picture of the whole refining process for that charge, or run.

flunkey (W): *n.* A man or boy who does all sorts of odd jobs for a well crew, from carrying water to running errands. *Flunkey* is sometimes used incorrectly as synonymous with *roustabout.* See *roughneck* and *roustabout.*

flush (D): *v.t.* "To clean out (a line of pipes) by letting in a sudden rush of water."

flux[1]: *n.* A heavy tar-like oil used as a fuel in steam production units, usually in stationary boilers.

flux[2] (D): *n.* Heavy residual oil from petroleum refining; used to soften rock asphalt, which would be too hard or have too high a melting point to bond in a road.

flux: *v.t.* To soften rock asphalt with heavy residual oil. See *flux*[2], *n.*

foaming (D): *vbl. n.* "A method of extinguishing fires by spraying with foaming liquid."

foamite (D): *n.* "A trade name for a preparation used in smothering oil fires."

foot's oil (D): *n.* An oil containing only low melting-point wax of little market value. The term is no doubt borrowed from the cotton oil industry in which there is a foot's or Foot's oil left after the essential oils are drained away. Some think that it had its origin in the animal fats industry in which oil is extracted from the foot or hoof of the animal. The possibility is that the name is that of a man, Foot, who invented the type of extraction that left only worthless residues.

4-F bar: *n.* Post-conscription name for a common heavy crowbar. Because of its size and weight, men used it as little as possible. This may account for the name.

fraction (P): *n.* Any major product into which petroleum may be separated, such as gasoline, kerosene, gas oil, etc.

fraction: *v.t.* To break petroleum down into its various fractions.

fractionate (D): *v.t.* Same as *fraction, v.t.* (*q.v.*).

fractionating column (PI): *n.* Same as *fractionating tower* (*q.v.*).

fractionating tower: *n.* The tall steel tank-like still in which

vapors ascend to upper levels according to their gravity. See *fraction, n.* and *fraction, v.t.* Cf. *fractional column*, P.

fractionating tray: *n.* One of a number of trays that support bubble caps (*q.v.*).

fuel gas (D): *n.* Gas used for heating as distinguished from illuminating gas.

fuel oil (D): *n.* Any petroleum product, heavier than gasoline, kerosene, or the illuminating oils, but lighter than lubricating oils; used for fuel. In cold test, it runs from 10–80 degrees and is black or dark green in color.

fuel ratio (D): *n.* "The amount of heating capacity in a fuel as compared with another fuel taken as a standard."

full boiling point: *n.* That degree of temperature at which any given fraction comes to a full boil.

fuller's earth (D, W): *n.* A fine earth resembling clay. It possesses the property of decolorizing oils and fats by retaining the coloring matter. See *clay*.

furfural (W) ['fɜfərəl]: *n.* An extract from corn shucks, wheat or oat hulls, etc., used with sulphuric acid as a selective solvent in curing or treating asphalt and other petroleum products.

gager (D): *n.* Same as *gauger* (*q.v.*).

gaging nipple (D): *n.* "A small projecting hatch in the roof of a tank close to the manplate preferably with self-closing cover which permits the gaging of the tank contents without the necessity of removing the larger manplate."

gas (D): *n.* The name the industry gives to non-liquefying vapor coming from petroleum or wells. Not used by refinery men as a short term for gasoline.

gas lift (P): *n.* The process of lifting the level of oil in an oil well by means of tubing forced below the natural level of the oil in the well through which gas pressure is applied so that the pump valve will continue the flow when the pump is in action. In a natural flowing well the force that drives oil out of the well and even over the top of the tower is gas within the oil. When this force is dissipated, it becomes necessary to substitute stored gas pressure for that which is spent from the well.

gas lift: *v.t.* To raise the level of oil in a well in which the gas pressure has failed or become spent. See *gas lift, n.*

gasoline (D, W): *n.* A volatile, inflammable liquid hydro-

carbon usually made by refining petroleum and used mainly as fuel for internal combustion engines.

gasoline additive: *n.* Material such as tetraethyl lead and diphenylamine added to gasoline to improve the burning property. The additive inhibits gum formation and supposedly absorbs the knock. Cf. *additive, adj.*, W.

gas oil (P)**:** *n.* That fraction of petroleum heavier than kerosene and lighter than wax distillate; a yellow, sometimes dark, oil containing fixed gases, wax, and other heavier substances. So called because it yields fixed gases.

gate valve (D)**:** *n.* A valve that has a channel of the same diameter as the pipe line of which it is a part. Closed, this valve stops the entire flow. Also called a *block valve.*

gauge line: *n.* A measuring line let down into a tank by which the amount of the substance in a tank may be determined. Properly weighted, it will sink through thick oil.

gauger, gager (D)**:** *n.* A man who measures the contents of a tank. See *pipe-line gauger.*

girth sheet (D)**:** *n.* "One of the steel plates forming the sides of an oil still."

go-devil[1] (D)**:** *n.* A scraper used to clean the inside of a pipe line. It may be forced through the pipe by either of two methods: (1) on long distances it is forced ahead by the pressure of the crude oil being conveyed by the line; (2) on short distances it may be pulled through the line by a cable. See *go-devil*[2].

go-devil[2] (D)**:** *n.* A heavy piece of metal dropped on a charge of dynamite to detonate it at great depths in a well. Cf. *go-devil, PADS* No. 2, p. 43.

goose-neck (P)**:** *n.* A length of pipe shaped like a goose-neck, suspended by a swivel, and situated at the top of a rotary drill pipe. Through this pipe water is pumped from the slush pit into the well during boring operations. By this means the top of the water, from which the solids from the well have settled, is sent back into the well to help wash the new grindings up out of the well. The water acts as the carrier for bit grindings and as a lubricant for the bit.

g. p. m. test: *n.* Test to determine the "gallons per thousand" (g. p. m) of natural gasoline in natural gas. See *g. p. m. test, v.t.*

g. p. m. test: *v.t.* To test natural gas in order to determine the gallons per thousand of natural gasoline in it.

graveyard: *n.* Short term for *graveyard shift*, *tour*, or *tower*; the hours from 12 p.m. to 8 a.m. Also called *hoot owl.*

gravity: *n.* A measure of thickness or body of an oil. Also called *viscosity* (*q.v.*).

Gray's tester (D): *n.* "An instrument used for determining the flashing point of heavy oils."

grease (D, W): *n.* A fatty, non-fluid dark yellow to green (except at very high temperature) lubricant that may be packed into cups on machines for continuous lubrication or forced into joint grease reservoirs where high speed oils are not needed and would flow away. *Axle grease*, *cup grease*, *chassis lubricant* are examples.

grease monkey: *n.* Name applied by Mid-Continent, Texaco, and Sinclair refinery men to filling station men, to those especially who grease cars. Similar meaning in other industries and in aviation.

grief stem (D): *n.* "A heavy fluted or square steel pipe which is screwed onto the top of the drill pipe and is engaged by the bushing or grips in the turn table."

gum: *n.* Mucilaginous substance found in petroleum.

gummy bottoms (PI): *n. pl.* Macilaginous residues in petroleum.

gun barrel (P): *n.* The tall small-diameter tank at or near the well into which the petroleum from the well is pumped. From this tank it is transferred by car, truck, or pipe line to the refinery. The tank takes its name from its physical appearance having a tall but small-diameter shape like a gun barrel.

gusher (D, W): *n.* "An oil well with a large natural flow."

gut: *n.* A steam line inside a larger pipe so placed for the purpose of heating the fluid in the larger line.

guy (D, W): *n.* A rope, chain, or rod attached to a derrick, pole, or other object capable of steadying it.

gypsum: *n.* Hydrous calcium sulphate. It contains 32.5 per cent lime. This term is sometimes applied in Oklahoma refineries to the refuse from lime neutralization in acid treatment. Cf. *gypsum*, D.

hand (someone) the package: *phr.* To blacken a workman's face with the *package* (*q.v.*).

harp: *n.* A maze of upright pipes or wires about or before a still. More specifically applied to large pipes, five or more, that

ascend from a larger horizontal pipe and end in another larger pipe overhead horizontal to the lower from which they came. Petroleum products are here cooled for the next operation.

hatch: *n.* The tank hatch is the opening in the top of the tank allowing the entrance and exit of men, or of air for ventilation while men are working. Originally nautical. See also *manhead, hatch cover,* and *top side* for other nautical and related terms.

hatch cover: *n.* A cover for the hatch.

head[1] (D, W)**:** *n.* The heavier or stronger wave in an open stream, or within a pipe, of oil or water. The head is usually preceded and followed by a less strong flow; then another head strengthens the flow again. See *heads, by.*

head[2]**:** *n.* The convex or concave top of a vertical container or the end of one that lies horizontally. Also applied to tank cars.

heads, by (D)**:** *phr.* When the flow of any petroleum or its product is strong then weak, or by intermittent force, the liquid is said to flow *by heads.*

headache: *n.* A cry or shout from a mechanic who is working high around a distillery when he wishes to drop a heavy object, such as a wrench. One hit by such an object would quickly develop a headache.

headache post: *n.* Any type of protection for the head of a driver of a truck whose cab may be crushed by loads he receives or carries, such as pipe, casing, rock, etc. The "post" may be a network of steel bars or pipe, a single pipe across the top of the cab, or a shield of sheet steel welded to a steel pipe across the top of the cab. See *headache.* Cf. P for another sense.

head up: *v.t.* To tighten the cover of a hatch so that pressure tightness is assured within the tank or still. Since some petroleum products are easily vaporized, any apertures must be completely closed. See *button up.*

heave hook: *n.* A heavy hook having a swivel shank for easy manipulation; used for lifting and carrying heavy weights by a traveling crane. See *steam-boat ratchet.*

heavy end: *n.* A heavy petroleum fraction that stays near the bottom of the stills or fractionating towers. It is the thicker part of the "make," and has a higher boiling point than the light ends. Lubricating oils, asphalt, and wax distillate are among them. See *end.*

heavy fraction: *n.* A major petroleum product that during

distillation goes naturally toward the lower part of the still; the thicker, less volatile parts of the "make," such as distillate, lubricating oils, and sludge.

high-end point: *n.* The less volatile petroleum products need higher temperatures in order to reach their end or finished product point. They have a high-end point, whereas gasoline and kerosene have low-end points. Cf. *end-point,* D.

hog still (D): *n.* A still named because of its low squat shape, the bottom being oval like a fat hog's belly; a simple form of tower still in which the very light products only, such as benzine or gasoline, are separated by use of steam.

hoot owl: *n.* One name for the 12 midnight to 8 morning shift, which is so unpopular that any opprobrious name is suitable. See also *graveyard.*

hoot owl *adj.* Used to describe a shift or a tour (or tower) as "the hoot owl shift." See *hoot owl, n.*

hot oil: *n.* A name given to oil that is illegally possessed or transported. It is "hot" in the same sense as a bad check is "hot." Claude Barrow, of the *Daily Oklahoman,* believes he is the first to apply the term in print to oil.

hot spot: *n.* A spot on the cylinder head of an engine that is super heated so that it reaches the fire point of the fuel to be used in the engine. The engine spot may maintain higher temperatures than the fire point of the fuel being burned and still function, but it must never fall below that point.

hot well[1]**:** *n.* A tank holding light ends coming off the vacuum jug.

hot well[2] (P): *n.* A catch basin for water from spent or condensed steam which was used in creating a vacuum condenser or a barometric condenser.

house (W): *n.* The company or refinery producing the products is the *house.* Anything made to the specifications of the company is referred to as a house brand.

house brand: *n.* So-called "regular" gasoline (or other products) produced by the particular selling company. Usually applied to gasoline.

hydrocarbon (D, W): *n.* "A compound containing only hydrogen and carbon. The simplest hydrocarbons are gases at ordinary temperatures; with increase in molecular weight they change to the liquid, and finally to the solid state."

i. b. p.: *n.* Abbreviation for *initial boiling point* (*q.v.*).

idiot spoon: *n.* Same as *idiot stick*[1]. (*q.v.*).

idiot stick[1]**:** *n.* Among men of greater skill, those who use such things as picks and shovels are idiots. The tools they use are therefore *idiot sticks.* See also *canal wrenches* and *emblems of ignorance.*

idiot stick[2]**:** *n.* Long-handled rakes and shovels used to clear the ground around tanks that are to be repaired by the tank repair crew; so called by the skilled repairmen as they are used by the less skilled.

illuminating oils (D)**:** *n. pl.* "Oils heavier than gasoline, ranging from 90 to 250 degrees flash point, used for lighting." See *lamp oil.*

immiscible (D, W) [ɪ'mɪsɪb|]**:** *adj.* "Not capable of mixing, as oil and water."

inch: *n.* When *inch* or any numeral or fraction of a numeral is used by petroleum men, *pipe* is always meant, the numeral being the diameter in inches. "Bring me five feet of *two inch.*" Also the big line from Texas to the East was the "Big Inch."

incher: *n.* Used to designate a pipe or pipe line. For instance, the great line from East Texas to the East was and is called "The Big Inch" and the "Incher."

incrustation (D)**:** *n.* "A deposit left by the evaporation of liquids or by deposit from liquids: such as, for example, the crust left in a boiler."

initial boiling point (P)**:** *n.* Temperature at which the first drop of distillate falls from the condenser.

inspissated (D, W) [ɪn'spɪsetəd]**:** *n.* Thickened, as by evaporation and oxidation; as the pitch or gum resulting from petroleum after long exposure.

intermediate base: *n.* Any mixture of the three regular bases. See *asphalt base, aromatic base,* and *paraffin base.*

iodine value (D)**:** *n.* "The percentage proportion of iodine absorbed by an oil or the number of grams of iodine absorbed by 100 grams of the oil. Used in the determination of unsaturates."

isomeric (D, W) [aɪso'mɛrɪk]**:** *adj.* "Composed of the same elements united in the same proportion by weight, but differing in one or more properties owing to the difference in structure."

jaw (W)**:** *n.* A triangular-shaped opening in the end of a gripping or binding tool. The gripping or binding is accomplished by

using the handle of the tool as a lever thus wedging the gripped pieces together; for instance, for welding them.

Jew's, or **Jews', pitch** (P): *n.* Name once given to petroleum tars or bottom oils that resemble the pitch once common in Palestine; what is generally called asphalt.

jig (D): *v.t.* To drill a well with a spring pole, which, in its actions, reminds one of the jig, a sort of dance.

jitney: *n.* A screw conveyor by which the spent clay in a filter is removed to a conveyor belt that carries it back to the furnaces, where it is burned free from the impurities it has filtered from the oils that have passed through it. The jitney runs along a track from filter to filter so that a string of filters may be serviced by one jitney.

jug: *n.* A tank to which are attached the upper outlets of pipes, shaped like jug handles, that carry light ends of petroleum from the still and start the condensing that continues in the *jug.* The tank gets its name because of its connection with the pipes, not from any shape of its own. See also *jug handle.*

jug handle: *n.* Pipe curved in a wide jug-handle arch from the still or tower up and over to the vacuum jug. The name is said to be an invention at Mid-Continent and arises from the shape of the pipes. See *jug.*

Kelley: *n.* A square joint of pipe into which the top joint of rotary rig drill pipe is screwed, and which is turned by means of its four sides so that it turns the whole string of drill pipe. When another length of pipe is added, the Kelley is uncoupled, the length of pipe is turned firmly into place above the last length of pipe, and then the Kelley is fastened onto the top of the new length.

kerosene (D, W): *n.* One of the light highly inflammable fractions of petroleum distillation. See *coal oil.*

kerosene distillate (D): *n.* The product that follows the light end or engine distillate. Also called *kerosene stock.*

kerosene stock (D): *n.* Same as *kerosene distillate* (*q.v.*).

key paste: *n.* A paste made of molasses and graphite used in the cutting of keys, tools, pipe, etc., when there is petroleum or its products present. This combination is used because it will not run off or be neutralized by any petroleum product. It washes away easily in water.

kick off[1]**:** *v.t.* To bail off heavy, slow flowing oil so that the natural gas force within the oil below will cause the oil remaining

to flow high enough to reach the storage tanks. The well is often bailed and sealed off until morning at the casinghead. By morning the pressure builds up enough to start and continue the flow. See also *kick off*[2] and *kick the casinghead.*

kick off[2]: *v.i.* To flow with force, as an oil well.

kick up: *v.t.* To raise the octane rating of gasoline as from 66 to 70, 72 to 82. To do this, gasoline additives are introduced, or the gasoline goes through a cracking process.

kick the casinghead[1]: *phr.* To put air or gas pressure into the tank car containing casinghead so that the gasoline will run from the bottom of the tank through a boot-like valve called the boot and thence into the storage tank or blending still for which it is charted. Because of the possibility of a spark that might ignite the gasoline, air pressure is used almost altogether.

kick the casinghead[2]: *phr.* To cause oil to flow out at the top of the casing by the force of the gas in the oil. Frequently oil is bailed off so that the gas is able to lift the weight of the oil remaining and thus cause it to *kick the casinghead.* See *kick off*[1].

knock: *n.* That sound in the cylinder of an internal combustion engine caused by the too rapid burning of some of the gases of the fuels.

knuckle buster: *n.* A wrench in general, but especially a valve wrench which, because of its narrow hold and the close quarters, often slips, causing bruised or skinned knuckles.

lampblack (D): *n.* Soot or carbon deposited by imperfectly burning gas or oil. Used in paint.

lamp oil (D): *n.* Same as *illuminating oils* (*q.v.*). Used less frequently than formerly.

layout: *n.* A plan for the assembly of a plant, distillery, a set of equipment, pumps, valves, pipes, etc.; a chart of a refinery process for any given oil charge. Same as *flow chart* (*q.v.*) in some of its uses. General use in W.

lazy bench (P): *n.* Same as *easy bench* (*q.v.*).

light end: *n.* A fraction of petroleum that rises quickly to the upper reaches of the stills or towers; it has a lower boiling point than a heavy end.

light fraction: *n.* Same as *light end* (*q.v.*).

line: *n.* A steel cable $\frac{3}{4}$ inch to 1 inch in diameter used in raising and lowering well drills, pipe, or casing.

liquefied petroleum gas (D): "Liquefied condensates from nat-

ural gas or from casinghead gas of oil wells, made either by the compression or absorption process, alone or blended with other petroleum products."

liquid gold: *n.* Tetraethyl lead is so called because of its cost.

liquid petrolatum (D): *n.* "A colorless to slightly yellowish, transparent liquid possessing a specific gravity of 0.840 to 0.940 at 25°C." For medicinal use.

log (D): *n.* Driller's record of formations found at various depths of a well. The geologist tries to chart the age of the rock by the types of formation through which the well must be drilled or is being drilled.

look box (D): *n.* "A device providing means for observing the stream of distillate from a petroleum still. It is placed between the condenser and the manifold through which the stream is diverted into proper tanks."

low-end point: *n.* The finished product point of fractions which do not reach their vaporizing point until great temperature is applied and do not rise rapidly to the top of a still.

lubricant (D): *n.* A material, especially oil, grease, and graphite, used to decrease friction. In petroleum refining, the distillates following the gas oils almost to the end of distillation until wax appears; also petroleum residues not too sticky because of asphalt or other resinous matter.

lug: *n.* A large ball-like knob by which a bucket is lifted and carried from the loading to the dumping areas. The two lugs, one on either side of the bucket, are the male joints over which the female joints of the truck chassis close, and by which the dump body, the bucket, is supported in transit. See *lug-loader*.

lug-loader: *n.* A truck with a chassis built and equipped with female joints to fit the lug of the bucket. See *lug*.

macaroni: *n.* Metal tubing with a number of elbows and turns in the complete set-up measuring $\frac{1}{4}$ inch to $2\frac{1}{2}$ inches in diameter.

make: *n.* The amount in tons or gallons of the products made by the run during the distillation processes. A run of petroleum will be reported:

"Make: 50,000 gallons of gasoline
40,000 gallons of kerosene."

male joint (W): *n.* A joint part that slips into, or is covered by the female joint. It may be a straight piece or pieces, such as the electric plug-in that fits into the wall socket. See also *lug*.

manhead: *n.* A hole in or near the bottom at one end of a horizontal tank permitting inspection of the residual contents.

manhole: *n.* A hole in a tank or tower by which a man may enter or exit. This hole may be buttoned up or headed up with a plate to make it pressure tight. Also called the *manway.*

manhole plate: *n.* A cover for a manhole in a tank or still.

manway: *n.* Same as *manhole* (*q.v.*).

marsh gas (D)**:** *n.* More recently used to describe the natural gas exuding from marshes and also obtained from drilling near the surface, as distinguished from deep gas, oil gas, petroleum gas, obtained from deep wells and indicative of the presence of oil. By analysis marsh gas is distinguished from oil gas by containing significant amounts of carbon dioxide (10 per cent or more) and other impurities.

m. c.: *n.* Abbreviation for *medium-curing asphalt* (*q.v.*). More often used than the full term.

medicated crude: *n.* A crude oil that naturally has a foul odor. It smells of several types of ingredients, especially sulphuric acid.

medium-curing asphalt: *n.* A road asphalt of medium consistency liquefied with a kerosene naphtha so that it hardens more slowly than rapid-curing asphalt but more rapidly than slow-curing asphalt.

melting point (W)**:** *n.* The degree of temperature at which a solid becomes a liquid.

mercaptan (P) [mɝ'kæptən]**:** *n.* A chemical compound analogous to alcohol, in which the sulphur replaces the oxygen. Commonly called a sulphur alcohol by chemists of the industry. Also called *stinkumnasty* because of the offensive odor it gives oil or gasoline which contains this property. Sour gasoline or sour oil are so called because they contain bad odor caused by their content of mercaptan.

methane ['mɛθen]**:** *n.* Same as *marsh gas* (*q.v.*). See *butane, ethane, propane,* and *specification gasoline.*

mineral oil (D)**:** *n.* "Crude petroleum and its products. Also, loosely, liquid *petrolatum.*"

mineral seal oil (D)**:** *n.* "A cut between kerosene distillate and gas-oil, widely used as solvent oil in gasoline absorption processes. Used largely in signal lamps and for light-house illumination."

mineral spirits: *n. pl.* Same as *petroleum spirits* (*q.v.*).

miner's sunshine (D): *n.* A soft grade of paraffin wax for burning in lamps.

miner's wax (D): *n.* A refined paraffin wax with a melting point of 118 to 120 degrees F.

mix (D): *n.* Term used in cold settling. "A solution of mixed stock in naphtha, so proportioned that the amorphous wax originally present in the stock will be largely precipitated at the refrigeration temperature employed."

mooching hammer ['mutʃən]: *n.* A wedge-shaped hammer used by tank inspectors for determining the tightness of tank or boiler plates by hammering the seams. Possibly from *mooch, v.*, "to pilfer."

mooching knife: *n.* Wedge shaped knife-like tough blade of steel for prying between plates of steel tanks for the purpose of determining the quality of steel plate seams after completion of the job, or after tanks have been in use for some time. This tool is used with the mooching hammer.

mouse-trap (P): *n.* A tool for fishing lost equipment out of wells. See *boot-jack, bulldog spear, cherry picker,* and *yoke.*

mud off (D): *v.t.* To use mud to stop the flow of water, salt, etc., into the well after the drilling reaches a lower level.

mud ring: *n.* A ring of steel plates that is flanged on both edges and by rivets through these flanges is connected to the wrapper sheet on one side and the fire box sheet of a heat still on the other, the bottom of a vertical still. Being at the bottom, it is natural that it be muddied by the flowing bottoms and the dirt in them.

muss: *n.* Greasy mud extracted from a well in process of boring into oily mud. Muss is usually kept in a pool formed by banking up the earth near a well.

naphtha (D): *n.* One of the poor cuts of gasoline, about 55 to 58 gravity, often used as a cleaning fluid. It has poor burning time and quality.

narrow cut: *n.* A small or narrow section taken from any fraction in the distilling process.

natural gas (D): *n.* "A mixture of gaseous hydrocarbons found in nature; in many places connected with deposits of petroleum, to which the gaseous compounds are closely related."

natural gasoline (P): *n.* Very light gasoline which comes out of gas or petroleum wells with gas. It can be easily extracted by

proper methods. Much the same as casinghead gasoline. See *flash gasoline.*

neutral: *n.* A low viscosity oil that may be blended with bright stock for desired viscosity. By using a neutral and a varying number of blends with bright stock, oil of the desired viscosity may be obtained. These neutrals are really lubricants of medium viscosity and fire test. Cf. *neutral oils,* D.

neutral oil (D): *n.* An oil of low or medium viscosity and fire test; it may be blended with bright stock for desired viscosity. If the neutral oil carries paraffine, it may be called *wax distillate* (*q.v.*).

neutral oils (D): *n. pl.* 1. Wax distillate. 2. Lubricants of medium fire test and viscosity, usually filtered, obtained by reduction of pressed distillate from wax oil or wax distillate.

nigger: *n.* A detachable length of heavy pipe made and sold as part of a large wrench; used in order to give added length and leverage to the wrench, thus allowing one to exert more pressure on the grip of the wrench.

o. b.: *n.* Abbreviation for *oil base mud* (*q.v.*).

octane (P): *n.* A colorless hydrocarbon boiling at 124.6 and found in petroleum. It gets its name from the formula C_8H_{18}.

octane number (P): *n.* An arbitrary scale used in the petroleum and automotive industries evaluating the knock of motor fuels obtained by comparison of the motor fuel and a blend of isotane (octane number 0) and normal heptane (octane number 100) using an internal combustion engine under prescribed conditions.

off-color: *adj.* Not of the proper color specifications for petroleum products.

off-stream: *adj.* Empty or not carrying products from a still; used of pipes. Motionless material in such a pipe is also *off-stream.* See also *on-stream.*

oil base mud: *n.* Mud made with oil and used to block off water, salt, etc., that might flow into the well to the detriment of the oil to be taken from the well. See also *o. b.*, *block off*, *mud off*, and *Black Magic.*

oil car (D): *n.* Same as *tank car* (*q.v.*).

oil fuel (D): *n.* Same as *fuel oil* (*q.v.*).

oil gas (D, W): *n.* "Illuminating gas, or heating gas, made by distilling oil in closed retorts."

oil saver (D): *n.* Two pieces of oval iron which when bolted

together form a circle the size of the pipe let down into the pay sand. This fits around the drill string of tools at the top thus keeping the suddenly free oil from rushing past and wasting before the tools can be brought out of the well.

oil shale (D): *n.* A compact rock containing organic matter that yields oil.

oil tar (PI): *n.* Tar produced from petroleum.

oil thief (PI): *n.* Same as *thief, n.* (*q.v.*).

oily moisture: *n.* A mixture of heavy ends and moisture, with some wax, all drained off wax presses. It is almost a refuse. Wax in this slop is difficult to separate; otherwise the wax would have adhered to the blankets that were chilled in the wax presses.

old man (W): *n.* A tool consisting of a heavy upright bar with a foot of heavy toes of flanges, and with a bent arm at the top or near the top (3 to 6 feet from the foot). This tool is used as a support for heavy electric drills and riveters. It may be rotated or made to swing around to match surfaces where riveting is to be done. Because of the support given by the old man, the operator may put his entire attention and energy on his drilling and riveting.

olefiant gas (D) [o'lifaɪənt, 'oləfaɪənt]: *n.* Ethylene. See *olefin.*

olefin, olefine (P) ['oləfɪn,-fin]: *n.* Any unsaturated hydrocarbon, such as ethylene, propene, or methene. Methane is the saturated hydrocarbon, methene is the unsaturated; propane is the saturated hydrocarbon, propene is the unsaturated. Thus propene and methene are the olefins of propane and methane. See P for full discussion.

Oliensis spot: *n.* The spot discovered by G. A. Oliensis (now chief chemist for Lloyd Fry Industries of Stroud, Oklahoma), used to determine whether asphalt is cracked. The spot is revealed by the spot test in which asphalt in liquid form is dropped upon a blotter or number 1 filter paper. If the asphalt has not been cracked, a brown circle is formed on the paper. If it has been cracked, a dark brown circle with a black circle in its center is formed on the paper, or a center of brown with a black circle around it and a brown belt around the black circle is formed on the paper.

on-stream: *adj.* A pipe is *on-stream* or the product within it is *on-stream* when it is moving in the proper direction for the stilling process. See also *off-stream.*

outage (D) ['aʊtədʒ]: *n.* The amount of oil that has escaped

from the tank car between the time it was loaded and the time it is delivered to the receiving end (usually between the oil field and the refinery). Several conditions account for this real or apparent loss of load: (1) bubbles formed in the loading have come to the top; (2) evaporation has taken place and the vapors escaped as soon as the car was opened; (3) men vary in their accuracy; (4) sometimes there are leakages; and (5) a few times there are thefts.

overhead: *n.* Light fractions or ends which come off high in the still. Cf. *overhead products*, D.

over the top: *adj. phr.* Phrase which describes the vapor going out of the flash tower toward the chamber where it will congeal into high octane gasoline: over-the-top vapor.

oxidized asphalt: *n.* Same as *blown asphalt* (*q.v.*).

oxidizing still: *n.* A blowing still. Also see *blown asphalt.*

package: *n.* A cloth bag or sack filled with oil soot with which a worker's face was smeared if he was caught sleeping when he should have been working. This custom passed away with the later, more highly developed refinery labor program.

pan: *n.* A small rectangular tank (about 50 to 100 barrel capacity) for retaining wax ready for the filters where dark sediments and oil are filtered out so that wax comes clean for regular paraffin trade.

paraffin (D): *n.* "1. A white, waxy substance, resembling spermaceti, obtained from petroleum, coal tar, wood tar, etc. 2. A white, waxy, inodorous tasteless substance, harder than tallow, softer than wax, with a specific gravity of 0.890. Contained in numerous oils, such as petroleum, from which it is separated by distillation."

paraffin base (D): *n.* The residuum from distillation of crude oil which carries solid paraffin, hydrocarbons, and practically no asphalt; also the oil itself.

paraffin butter (D, W): *n.* "A variety of native paraffin used in making candles, one of the past products of petroleum distillation."

paraffin slop: *n.* A crystalline substance, a combination of wax and refuse oil after the first stilling of a wax or paraffin based petroleum.

paraffin scraper (PI): *n.* Same as *spud bar*[2] (*q.v.*).

paraffin wax (D): *n.* "A colorless, more or less translucent mass; crystalline when separated from solution, without odor or

taste, and slightly greasy to the touch, consisting of a mixture of solid hydrocarbons chiefly of the methane series; usually obtained by chilling and pressing the distillates from petroleum having high boiling points, and purifying the solid press cake so obtained."

pay dirt: *n.* A term adopted from the mining industry designating earth formations within which there is a paying yield of oil. In petroleum industry seldom referred to as *pay dirt*, but as *pay horizon*, *pay lime*, *pay sand*, and *pay zone* (*qq.v.*).

pay horizon: *n.* Same as *pay zone* (*q.v.*).

pay lime: *n.* Same as *pay zone* (*q.v.*).

pay rock: *n.* The geological formation that contains paying quantities of petroleum deposits. See *pay zone.*

pay sand (P): *n.* Same as *pay zone* (*q.v.*) except that *pay zone* may be any formation, whereas *pay sand* indicates that the *pay zone* is a sand formation.

pay zone: *n.* A subsurface geological formation in which oil is found.

p. d.[1]**:** *n.* Abbreviation for *press distillate* (*q.v.*), more often used than the full term.

p. d.[2]**:** *n.* Abbreviation for *pressure distillate* (*q.v.*).

pea picker: *n.* A common laborer that has neither the intelligence nor the training to become skilled in the petroleum distillation processes. The term arose in East Texas during the oil boom there when farm labor was employed in large numbers because of the lack of oil distillers.

percolating clay: *n.* Same as *clay* (*q.v.*).

pet cock (W): *n.* A small valve by which water or steam may be drained away or allowed to escape. Samples of petroleum products may also be taken by means of such an outlet. This name is sometimes mistaken for that of the automatic control valve called a *pop-valve* (*q.v.*).

petrolatum (D) [pɛtrə'letəm]**:** *n.* A jelly-like wax that will not take any form of itself, and can be taken off crude by the centrifuge plant only. In color it ranges from white to yellow. By the trade it is known by a number of names, most common of which is vaseline.

petrolene (D)**:** *n.* "A liquid hydrocarbon mixture obtained from bitumen or asphalt."

petroleum (D, W)**:** *n.* "An oily, inflammable liquid mixture of a great many hydrocarbons found in the earth. The quality

and quantity of the deposits or pools vary almost as widely as the locations in which it is found."

petroleum coke (D): *n.* The residue obtained by distillation of petroleum. Used in metallurgical processes and in making battery carbons.

petroleum ether (D, W): *n.* "A volatile, inflammable liquid used as solvent for caoutchouc, oils, etc. Term also frequently applied to naphtha."

petroleum refining (D): *n.* "The process of separating crude petroleum into its various commercial products and the purification of these products."

petroleum spirits (D): *n. pl.* A refined white or clear petroleum distillate. Also called *mineral spirits*, *turpentine substitute*, and *white spirits*, (*qq.v.*). Used as a paint thinner.

petroleum still (D, W): *n.* "A still for separating the hydrocarbon products from crude petroleum."

pick up: *v.t.* To absorb heavy ends from a well with gas and bring them to the surface so that they may be distilled out of the gas, which is sent back into the well to absorb more of the heavy ends. See also *recycle*[2].

pin wrench: *n.* A tool that has what is called an end wrench on one end and a pin on the other which, inserted in the holes of a ratchet, will turn the ratchet. The pin may be used also to line up sheets of steel so that rivets may be inserted in corresponding holes. Term in W with different meaning.

pipe-line gauger: *n.* A man who gauges the contents of a tank in a pipe line pumping station and has the additional duty of checking the contents to see that they are acceptable crude oil.

pipe-line walker: *n.* A man who walks along a pipe line in order to detect leaks or breaks. Work now increasingly done by airplane.

pipe still (PI): *n.* A still in which the liquid flows through pipes as it heats and the vapors pass off.

pitch (D): *n.* "1. The residuum from the distillation of rosin oils. 2. The residuum remaining after the distillation of crude petroleum."

pit leak (PI): *n.* Leakage from oil pits whether by impounding wall failure or by theft.

plastic cement: *n.* An asphaltic substance of about jam con-

sistency that is reinforced with asbestos fibres and used for the coating of roofs, especially where there is a break or where asphalt roof must be flashed at a chimney.

plug (P): *n.* A solid mass of material, usually cement, inside a casing and at or near the bottom of the well to keep the well from producing or to keep unwanted or deteriorating substances out. See also *plug, v.t.*

plug: *v.t.* To use cement of some type to stop the well from producing or to keep foreign or deteriorating substances out. See *plug, n.*

plugged off: *past part.* Tubes of a still are said to be *plugged off* when they have been so coated with carbon from the distillation process that the material cannot run through them.

poly. gas: *n.* A short term for *polymerized gasoline* (*q.v.*) and *poly gasoline*, a patented name for the gasoline made by a certain oil company.

poly. gasoline: *n.* See *poly gas, polymerization, octane,* and *gasoline additive.*

polymerization (P) [palɪmɛrə'zeʃən]: *n.* So far as the petroleum industry is concerned, polymerization is an endeavor to refine petroleum products, especially gasoline, without distillation. By heat and a catalyst the refiners seek to change the unsaturated smaller molecules into larger ones. This is or was considered the best way to get the power from gasoline, making it burn properly so that the explosion flows across the cylinder head and then down following the piston.

polymerized gasoline: *n.* Gasoline which is the result of polymerization.

pond: *n.* Same as *trap* (*q.v.*).

pool (W, D): *n.* A belt of oil-producing wells outlined by a number of wells on its several sides that do not produce oil. These latter are called *dusters.* See *duster.*

pop-valve: *n.* Valve on a boiler that automatically regulates pressures within the boiler by popping off or permitting the steam to escape before the pressure reaches a dangerous point. See also *safety valve* and *pet cock.* Not confined to refineries.

pour-point (D): *n.* "The lowest temperature at which an oil will pour or flow when chilled without disturbance, under definite specified conditions."

pour test (D): *n.* A test to determine the temperature at which a petroleum product will run. Usually applied to the heavier ends.

power distillate (D): *n.* "The untreated kerosene condensate and still heavier fuel oil down to 28 degrees Bé. from Mid-Continent petroleum; used as fuel in internal combustion engines. Heavy-end power distillates are cut from eastern and Mid-Continent crudes between kerosene distillate and gas oil. Usually set aside for rerunning, although often sold under a variety of names for light horse-power engine fuel."

press: *v.t.* Same as *sweat* (*q.v.*).

press distillate: *n.* A residue coming from wax distillate when wax-containing distillate is run through the wax presses. Cf. *pressed distillate*, D.

press dumper: *n.* A man who opens the wax presses and wedges the wax loose from the blankets with the spud bar.

pressure coat: *n.* Same as *coat* (*q.v.*).

pressure distillate: *n.* The gasoline portion of the run from a thermal unit. May be a local expression.

pressure tar: *n.* The very heavy, black residuum from the cracking process in a high pressure cracking still or tower.

pressure still tar: *n.* Tar from the pressure stills; one of the heavy fractions.

prime white oil (D): *n.* "A kerosene of prime white color intermediate between white and standard white."

primer: *n.* An asphalt cement especially suited for coating concrete roof surfaces before felts are laid.

production (P): *n.* That phase of the industry that brings the oil to the surface of the earth and loads it ready for shipment to the refinery.

propane (P) ['propen]: *n.* A chemical compound, C_3H_8; a hydrocarbon production of natural gas and/or petroleum. See *butane*, *ethane*, *methane*, and *specification gasoline*.

p. s. t.: *n.* Abbreviation for *pressure still tar*, a petroleum product that must be heated highly to pour and that solidifies easily. It is a black heavy substance belonging to those products known as heavy ends that may be used for any purpose where tar is needed.

puke: *v.i.* To expel the product rapidly from every outlet of the run-down tank when water is admitted, thus increasing the still pressure; used of a still. Cf. *puking*, P.

pumper: *n.* The man who pumps any liquid at an oil refinery.

pump station (D): *n.* One of a series of pumping plants, placed along the course of a pipe line for the purpose of forcing the oil through the lines.

rapid-curing asphalt: *n.* An asphalt so treated with a gasoline naphtha that it cures or hardens quickly for road use.

rate (PI): *v.t.* To fix the normal capacity of a unit.

rattle tubes: *v.t.* To clean the tubes in a distillery by jarring loose the inner coating of the tubes by rapping on the outside while air is forced through the inside.

r. c.: *n.* Abbreviation for *rapid curing asphalt* (*q.v.*).

recovered acid (D): *n.* "Sulphuric acid which has been used for treating oils and has been recovered for repeated use."

recovered oil (D): *n.* "A used lubricating oil which has been collected and used again after purification."

recovery (D): *n.* "The total amount of products obtained in any refinery compared with the original amount of material before refining."

recycle[1]: *v.t.* To return stock to the still for redistillation. Much the same as *rerun* (*q.v.*).

recycle[2] (P): *v.t.* To send natural gas back into the hole so that it will pick up heavy ends that are absorbed by the gas as it circulates through the pay horizon.

recycle stock: *n.* That portion of a charge that has not been properly stilled and is to be returned to a still for reprocessing. See *recycle*[1].

red devil: *n.* An air-driven hammer for knocking off rivet heads. The name is taken from the manufacturer's name for his tool, and from the noise and vibration that annoy the handlers.

red oil (PI): *n.* Same as *neutral oil* (*q.v.*).

reduce (D): *v.t.* "To distill off lighter oils of greater gravity or viscosity."

reduced crude oil (D): *n.* Same as *reduced oil* (*q.v.*).

reduced oil (D): *n.* Oil from which the more volatile hydrocarbons have been eliminated by partial evaporation, usually by steam.

reducing still (D): "A still of the cheesebox or horizontal type, equipped with perforated bottom steam coils."

refine (D): *v.t.* "To free from impurities."

refinery (D): *n.* "A plant, including apparatus for refining or purifying metals, oils, etc."

refining agent (PI): *n.* The material or substance used in refining another substance.

reflux line: *n.* A pipe line leading from the condensing chamber back to the bubble or fractionating tower from which gasoline has come in the form of vapor.

reforming stock: *n.* A product of petroleum distillation that needs restilling in order to make it a high octane fuel just below gasoline. When first run, it is not of great value, but the restilling brings it within a naphtha range, after which it will be cracked to improve octane rating.

refractive index (D): *n.* "An index used for the detection of rosin in mineral oils."

refractometer (D): *n.* "An instrument for determining the index of refraction of a mineral."

regeneration of doctor solution (PI): *phr.* The process by which the doctor solution is purified.

regular gasoline: *n.* The gasoline made to the specifications for flash point, fire point, etc., of the selling company, and sold out of the pumps of the manufacturing company.

Reid vapor pressure test (PI): *n.* The method developed by Reid for determining the pressure of a vapor. See long and complicated explanation in *Standard Methods for Testing Petroleum and Its Products*, Institute of Petroleum Imperial College of Science and Technology, London, 1942; pp. 295–307.

rerun (D): *v.t.* To redistill certain portions of the first run so that a better end-product will be obtained. Rerunning makes the product higher in octane, more easily burned in an internal combustion engine, if it is gasoline or kerosene. If it is an oil, the restilling makes it a more heat resistant lubricant.

residual (D): *adj.* "Characteristic of, pertaining to, or consisting of residuum. Remaining after the removal of certain constituents of the oil mixture."

residue (D): *n.* Solid matter remaining after distillation has extracted all volatile and lubricating properties from crude petroleum.

residuum (D): *n.* The thick, viscous residue obtained by the distillation of crude petroleum after gasoline, kerosene, and, sometimes, heavier distillates have been removed.

retort: *n.* A vanishing name for a clay kiln. The oil is filtered through fuller's earth or clay until it is clear of all discoloration,

etc. When the clay becomes saturated with the impurities, it is sent through the *retort* so that all of the impurities are cleansed away by fire.

rig (D): *n.* An oil well derrick generally understood to be equipped with tools necessary for the drilling.

rig: *v.* To equip a well with everything necessary for the drilling of an oil well.

rig up: *v.t.* To place tools, ropes, lines, etc., in position and in good order so that drilling may proceed. Cf. *rigging up*, D.

road binder (D): *n.* "Asphalt, cold tar, or residuum used to consolidate the road fragments on the road surface."

road oil (P): *n.* Any oil residuum used on road repair or paving. See also *a. c.* and *Beaumont oil.*

rock: *n.* A general term used in the oil business to designate types of rock formation in which oil is found. See *pay rock* and *asphalt rock.*

rock asphalt: *n.* An oil sand from which the oils, gasoline, kerosene, and gas oil have been evaporated, leaving residual oil in the pores of rock. The best known deposit is near Uvalde, Texas.

rock gas (D): *n.* "Natural gas."

roily oil (D): *n.* "Crude oil that has formed a more or less complete emulsion with water."

roll a tube: *phr.* To spread the end of a pipe or metal tube so that it will wedge tightly into the metal perforated tube sheets through which the pipes or tubes are run and then by which the pipes are supported in groups as in a steam engine boiler. The pipes are spread by inserting into their ends a flared or conically shaped roller turned by power mandrels. The ends are spread until they fit exactly into the perforation and are held tightly in place.

roughneck, ruffneck: *n.* A somewhat skilled workman on a rotary drill. While the driller handles the machinery, the roughneck does all that must be done by hand with wrenches, etc. He must know how to fit pipe, handle pulleys, and other equipment including the Kelley. Not the same as *flunkey* or *roustabout.*

roustabout (P): *n.* The helper that works with the maintenance foreman or mechanic on a lease that has been fully drilled-in. This man must have some skill in the use of oil well tools and know what to do when emergencies arise around producing wells. It is

evident from this usage that in the oil industry *roustabout, flunkey,* and *roughneck* are not used as synonyms.

run[1] (D): *n.* An amount of oil taken from the producer's tanks by pipe line during a specified time.

run[2] (D): *n.* The amount of oil fed into a still within a given period of time, usually of one certain stock. See also *run*[1], *n.*

run[3]: *n.* The length of time the still is in operation from one cleaning to another.

run: *v.t.* To test petroleum to determine gravity, quality, and points. The test shows the percentage of various fractions and the quality of these.

run a tank: *phr.* To pump a tank so that the contents are taken out into a pipe line or to a still.

runback (D): *n.* "Pipes through which the condensate is returned to the still instead of being run or drawn off."

run-down tank (D): *n.* A tank into which the newly produced fractions flow immediately from the still towers.

safety earth wall (PI): *n.* A levee or dike made of banked earth enclosing a basin in which oil that may escape from tanks will be held. As a rule, steel tanks are surrounded by such earthen walls as a precautionary measure against accident.

safety valve (P): *n.* The valve on a boiler that allows steam to escape when pressure become unsafe or greater than needed for the operation being charted. Also called *pop-off valve.*

safety wall (PI): *n.* Same as *safety earth wall* (*q.v.*).

sample (PI): *v.t.* To obtain samples from petroleum and its products.

sample grabber: *n.* Same as *sample jerker* (*q.v.*).

sample jerker: *n.* One who takes samples of oil from tanks and tank cars.

sand: *n.* The type of earth formation in which petroleum is found. See *pay sand.*

sand line (P): *n.* Cable attached to the bucket by which the sand is raised from wells bored by other than the rotary rig.

saponification (D): *n.* The process by which the fatty substances from petroleum form soap by combination with an alkali.

s. c.: *n.* Abbreviation for *slow-curing asphalt* (*q.v.*); generally used instead of the longer term.

scale (D, W): *n.* "The incrustation caused in steam boilers by the evaporation of water containing mineral salts. Also crude

paraffin obtained in petroleum refining by filtering from the heavier oils."

scale wax (D): *n.* "A wax that has had all but a small percentage of the oil sweated out."

scraper (D): *n.* Same as *go-devil*[1] (*q.v.*).

scraper-chaser (D): *n.* A man whose business it is to observe the scraper in the petroleum pipes and give instant notice if a clog occurs.

screw conveyor (D): *n.* "An apparatus by which materials may be transported by the action of a helical screw."

scrub: *v.t.* To clean gasoline with various substances whether steam or chemicals.

scrubber (D, W): *n.* A tank-like piece of refinery equipment the purpose of which is to clean or separate light hydrocarbons, such as gasoline, from gas. So named because of its action in cleaning gas.

scrubber tank: *n.* A large pressure vessel in which mechanically entrained solids and liquids are dropped out of natural or manufactured gas. See also *trap* and *scrubber tower*. This is a tower-like vessel near the top of which a stream of gas flow enters, is caught and held a moment, then allowed to escape on the opposite side from which it entered. During this moment solid and liquid refuse drop out leaving the gas relatively free from these substances.

seat wrench: *n.* Same as *barrel wrench* (*q.v.*).

sediment (D): *n.* "Any material other than water which separates by itself below oil in a tank, usually sand or dirt."

separator (D): *n.* "An apparatus for separating the oil mechanically carried over by the vapor in distillation."

setting-point (D): *n.* "The point or temperature at which a liquid congeals.

shale (D): *n.* Shale is a geological formation that has a definite cleavage in one direction and has a tendency to peel off rather than break in any shape. It is similar to slate. Oil is found in some shale.

shale oil: *n.* Same as *crude shale oil* (*q.v.*).

sheave-wheel [ʃiv]: *n.* The wheel at the top of the rig over which the cables are brought up out of the well and down to the drums on which they are wound. Cf. *sheave*, "a grooved pulley," D and W.

shell still: *n.* A batch still that may be charged semicontinuously. By drawing off lighter products as these are distilled, space is made for refilling with crude oil. This operation is continued until the still is full of heavy ends, or fractions.

shoe (D)**:** *n.* A broad, strong steel rest that may be placed properly footed on its foundation before the superstructure is bolted or riveted to it as a bridge or other structure is built up. The rest has a slanting upper flange to which the added parts of the bridge or other structure are fastened. The rest and the flange give the appearance of a shoe, whence the name.

shoot a well: *phr.* To set off a charge of high explosive at a definite depth so that the size of the hole is increased and the rock formation about the bore at that point is loosened. Cf. *shooting*, D.

shoot for oil: *phr.* To send electric charges into the earth by means of metal stakes driven into the earth's surface. Such charges are reflected by the chosen strata back to other stakes at desired distances and in certain patterns. The time consumed by the charge in reaching the strata and returning reveals the depth.

shoot off a pipe: *phr.* To blow off a section of pipe or casing.

side dog: *n.* A heavy steel bar with wedge-shaped jaws for gripping and wedging steel plates together or into place. It has the jaws turned at right angles to the heavy bar handle, allowing a different angle of pressure from that which is possible with the straight dog. See *dog* and *straight dog.*

skimming (D)**:** *vbl. n.* The process by which all of the kerosene fraction and often part of the gas oil (in addition to the benzine content removed by the topping process) are removed.

slop: *n.* Petroleum residue after the petroleum has been worked once; also called *paraffin slop.* It may be burned as fuel oil, but is always an unfinished product no matter where it is found.

slop oil (D)**:** *n.* "Any liquid product of petroleum which is not up to quality, usually put aside for redistillation."

slow-curing asphalt: *n.* A road asphalt liquefied with a gas oil naphtha so that it cures more slowly than other asphalts liquefied with gasoline and kerosene naphthas. See *medium-curing* and *rapid-curing asphalt.*

sludge (D)**:** *n.* A residue from petroleum treated with sulphuric acid for the removal of impurities, containing acid and the

impurities separated by acid treatment in the agitators. Used in some paving. Also called *acid sludge* and *tar*.

sludge acid (D): *n.* "Impure and dark-colored sulphuric acid that has been used in refining petroleum."

slurry (PI): *n.* An emulsion of water and clay or other pulverized material mixed to a gelatinous consistency.

slush pit (P): *n.* The pit by the well rig into which the mud and rock from the bottom of the bored well pour during boring. The solids settle, allowing the water to be used again and again.

smoke point: *n.* Temperature at which a petroleum product will smoke with heat but not burn. A standard test in the industry, many buyers purchasing by the smoke point.

snag hook: *n.* A heavy swivel hook used in lifting and pulling heavy objects about the shop and carrying them by means of a crane.

soap stock (D): *n.* "Sweet, light-colored amorphous waxes used in the manufacture of soap and in the saturation of waxed papers."

solting point ['soltɪŋ]: *n.* Same as *melting point* (*q.v.*). Possibly from Sp., *soltar*, "to loosen, cast off, untie."

solvent bright stock: *n.* The obsolescent term for *bright stock* (*q.v.*).

sour: *adj.* A term applied to petroleum products that have a bad odor. See *sweet.*

sour gasoline: *n.* Gasoline containing sulphur compounds or mercaptans. The term refers to the odor and not the taste. See also *doctor test, doctor treatment,* and *sweet gasoline.*

specification gasoline: *n.* Gasoline made to certain specifications. Different consumers—such as the army, navy, and air forces—buy gasoline according to their own specifications. The refiners cut or crack gasoline to those specifications. The most common specification gasolines are those refined for summer or winter burning.

spent (D, W): *adj.* Having lost usefulness. Oil is *spent* when it no longer has the power to lubricate; clay is *spent* when it no longer filters.

spider[1] (D): *n.* "A circular iron device with spaces for serrated slips which surround and grip the casing or drill pipe that is being fished out of a well." See also *spider*[2,3,4,5,6].

spider[2]: *n.* A type of funnel with five outlets, resembling legs, for charging the charging belt of the clay filters.

spider[3]: *n.* Pipes of many lines of such close proximity that they look intertwined. Such are common around a refinery.

spider[4]: *n.* Coiled or crossed steam pipes that run into a still at short distances from each other. These pipes are arranged so that steam may be forced into the still for rapid distribution of the heat. See *spider, v.t.*

spider[5]: *n.* A series of copper wires placed about batch agitators and grounded for the purpose of collecting static electricity and grounding it. They also dissipate static within the agitator so as to keep it from forming too great a charge, which would jump when the door is opened and cause a fire.

spider[6]: *n.* Any web of pipes or wires within the refinery grounds. The webs are found near the stills and also near the pumping station where refined products are pumped to the storage tanks or loading stands.

spider: *v.t.* To force steam through a series of pipes so that it is distributed throughout the still.

spoke: *n.* Pipe-line and refinery valves are turned by wheels. Each wheel spoke that reaches a certain point represents a certain degree the valve is opened. The valves are cracked or opened a certain number of spokes to permit a predetermined amount of oil to run through the pipe. A spoke is the measure of the amount of oil.

spot (W, colloq.): *v.t.* To place a railroad car in the proper place for loading or unloading. Railroad terminology.

spot test: *n.* The test by which buyers of an asphalt determine whether it has been cracked. See *Oliensis spot.*

spot test: *v.t.* To test an asphalt to determine whether it has been cracked. Cracked asphalts are less valuable than uncracked; therefore buyers wish to learn the quality by spot testing it. See *Oliensis spot.*

spot time: *n.* A few minutes' rest an employee may take during the hours he is supposed to be working. See *easy bench* and *lazy bench.*

spring: *n.* A slight bend in a pipe. In other words, the pipe is sprung out of a straight line, not bent.

spring (W): *v.t.* To bend a pipe so that it gradually departs from its original direction. A spring is less than a bend.

spring pole: *n.* An elastic wooden pole from which hand-operated percussion drilling tools or other tools are suspended. See also *jig*.

spud bar[1]**:** *n.* A wide, flat-head bar for scraping bottom sediment from tanks. It is sharper and broader than the spud bar used by the press men for wedging the wax from the blankets of the sweater or press. Cf. *spud spade*, W.

spud bar[2]**:** *n.* A short, wide-blade, light bar used for the purpose of wedging the pressed wax from the blankets of the wax press.

spud in: *v.t.* To start the well from the earth's surface. This is usually done with a large bit 15 to 24 inches in diameter. With this drill bit the well is sunk to water sands at which place the bit is exchanged for one of smaller diameter. Bits are exchanged from large to smaller until the pay sand is reached at which level the 6-inch bit is used to drill in. Cf. *spudding*, P.

squeeze: *v.t.* To force cement into the water sand and oil sand at the pay zone by means of a pipe let down to the level. The cement is forced into these places where there is least resistance, which is in the water and oil sands. The cement will not set in the oil sands; consequently it does not stop the flow of oil. Since cement does set in water sands, it cuts off the flow of water. The force used is compressed air. See also *squeeze job*.

squeeze job: *n.* The name of the operation in which cement is forced by pressure through a pipe into the water-producing sands at the level of the oil-producing strata. See *squeeze*.

stabilizer (P)**:** *n.* A tower-still in which specification gasoline is made. It is so constructed that high octane gasolines do not escape while highly volatile propanes and butanes are removed in certain previously specified proportions. See *butane*, *ethane*, *methane*, *propane*, and *specification gasoline*.

stabilizing column (PI)**:** *n.* Same as *fractionating tower* (*q.v.*).

stack (W)**:** *n.* A flue or chimney of any description.

steam-boat ratchet. *n.* A heavy barrel, or barrel-like body of steel, 6 to 8 inches in diameter, supported by a heave hook. It is equipped with both right- and left-hand turns so that bolts or nuts may be tightened or loosened. See *heave hook*.

steam distillation (D)**:** *n.* Introduction of steam into a still during petroleum distillation for two purposes: first, to lower

the boiling point of the oils being distilled by adding the vapor pressure of the steam; and, second, to minimize cracking.

steam emulsification: *n.* Use of steam to emulsify oil for certain tests. See *steam emulsion test.*

steam emulsion test: *n.* A test used in all oils when an emulsion, demulsibility, or emulsification test is required.

steep-roofing asphalt: *n.* Asphalt which has been oxidized, or blown, until it has reached such a consistency that it will not run on a steep roof.

still (D, P)**:** *n.* "An apparatus in which a substance is changed by heat with or without chemical decomposition, into vapor, which vapor is then liquefied in a condenser and collected in another part of the apparatus."

still: *v.t.* To distill.

still wax (D)**:** *n.* "The waxy product, usually yellow, indicating the end of petroleum distillation."

stillman: *n.* A workman who operates a still or distillation unit.

stinkumnasty: *n.* Same as *mercaptan* (*q.v.*).

stock: *n.* A general term for a lot, a consignment, kind, or charge of petroleum or some fraction thereof. The oils being refined, tested, or already refined are all stock. It may be *bright stock* or *dark stock*, *blending stock*, or simply *crude* (*qq.v.*).

straight dog: *n.* A long, heavy bar for wedging steel plates together and into line with one another. The straight dog has its jaws parallel with the bar handle and straight out from the end, allowing for a different angle of pressure from that allowed by the *side dog* (*q.v.*).

strap: *n.* A steel tape used in measuring the circumference of a steel tank to determine its liquid capacity.

strap: *v.t.* To measure the circumference of a tank by means of a strap so that the liquid capacity may be determined. Cf. *strap*, D.

stream: *n.* The flow that comes through pipes at varying heights on the still towers during the refining process. As varying heights represent varying grades of the petroleum ends, a stream at a given level represents a certain product. A stream may be gasoline coming from the very high pipe outlets, or, if drawn off lower, kerosene or gas oil.

string (D)**:** *n.* A number of tools necessary to the boring or

fishing process, all fastened together by bolts or turns on couplings, let down into the well being bored, cased, or cleaned out. Field men who have gone into refinery shops find it a convenient term for sets of tools used in the repair and maintenance of the refinery.

strip (D): *v.t.* To remove by distillation all the light fractions down to lubricating oils.

stripping still (PI): *n.* A still for the first or primary distilling process. See *strip*.

stud bolt: *n.* A reinforcing bar of iron threaded on both ends, one end of which is to be screwed into a plate or other steel structure. A nut is turned down tightly on the other end. Cf. *stud*, P.

subcooling condenser (PI): *n.* A condenser that cools vapors coming from distillation below the temperature for condensation.

sulphur dioxide (D): *n.* "A colorless gas, SO_2, having the well-known odor of burning sulphur."

sump: *n.* A reservoir into which the crude petroleum from the trucks or tank cars is dumped at the refinery, from which it is pumped to storage or to the still. Cf. *sump*, D: "an earthen reservoir into which oil is pumped from a well."

sump-hole (D): *n.* Same as *slush pit* (*q.v.*).

surface casing: *n.* A short string of casing extending from just above the surface of the earth down past the first water sands so that surface water and the first spring water are held out of the well.

swab: *n.* A bladed pipe-line cleaner whose blades, operating similarly to those of an electric fan, turn as the cleaner is pulled ahead by a linked rod fastened to a tractor or truck, for the purpose of cleaning out the sand or sludge that has lined or settled in a pipe. The jointed rod allows for the sidewise pull necessary between the end of the pipe or sewer and the truck, and it also furnishes a means by which the blades may be turned. Cf. *swab*, D: "a rod provided with a plunger." Cf. *swab*, P, who describes a different type of cleaner.

swage: *v.t.* To reduce in diameter by use of a *swage nipple* (*q.v.*). Cf. *swedge*, P; and *swedged*, D.

swage nipple: *n.* An expansion joint for expanding a line in a refinery. Reversed, the nipple reduces the line. See *swage*.

swamper: *n.* A petroleum refinery office and laboratory janitor. Possibly so called because he uses much water in cleaning floors.

sweat (P, W): *v.t.* To subject a product to such low tempera-

tures that a moist deposit forms on the surfaces exposed to the moisture. When wax containing slop is run through the presses, it is subjected to such low temperatures that it sweats or forms on the blankets provided for this purpose; the oil in the slop, unaffected by the coolness, flows off.

sweat over: *v.t.* To liquefy material by heat until it sweats or melts away. Temperatures of from 120 to 126 F. are needed to melt wax. See *sweat.*

sweating pan: *n.* Tank fitted with heating and cooling coils used to separate paraffin waxes of different melting points.

sweating surface: *n.* Surface on which paraffin wax is caught after heating and cooling have been in process. Vessel is cooler inside than outside where wax sweats or condenses as it comes into contact with the cooling surface. The surface is enclosed within the sweating tanks.

swedge: *n.* A nipple-shaped tool into which a pipe may be jammed so that the end is reduced in size to fit into some other pipe or fitting. Same as *swage, n,* in W. Cf. *swedged,* D.

sweep gas (PI)**:** *n.* Gas that is forced into a flue to drive the undesirable vapors out.

sweet: *adj.* A term applied to petroleum products that have no bad odor; sweetness in the industry has to do with odor not taste. See *sour.*

sweet crude (D)**:** *n.* Crude oil that comes from the well free or almost free from sulphur, which combined with petroleum and its components makes a foul odor.

sweet gasoline: *n.* Gasoline that has been treated so that bad odors have been removed. See also *doctor test, doctor treatment, doctor solution,* and *sour gasoline.*

sweeten: *v.t.* To remove the sour odor from petroleum products. See *sour.* Cf. *sweetening still,* P.

sweetening still (D)**:** *n.* "A still in which petroleum products are improved in odor."

swing line: *n.* A line used for the purpose of extracting good oil from a tank. When a thief has shown the lowest level of the good oil in the tank, a swing line is lowered to that level and the good contents drawn off.

tag line: *n.* Utility rope or cable with certain gripping devices used in machine shops where heavy equipment is often handled.

tailings (D)**:** *n. pl.* "The inferior leavings, or residue, of any

product; also a shortened term for wax tailings or gum, the last distillate passing off before coking of dry-run crude or tar."

tankage (Century D, D): *n.* 1. The process of storing oil in a tank. 2. The price charged or paid for storage in a tank. 3. The capacity of a tank.

tank car (D): *n.* "A cylindrical metal tank mounted on railway trucks."

tanker (D): *n.* "An oil-tank ship or barge."

tank station (D): *n.* Aggregation of tanks located along a pipe line.

tank steamer (D): *n.* "A steamer for carrying oil in bulk lots."

tank strapper (D): *n.* Same as *gauger* (*q.v.*).

tank truck (D): *n.* "A truck with a tank for carrying liquids or gases."

tank wagon: *n.* A tank truck; the first tank transportation vehicles were wagons. The truck has not changed the terminology of some of the older oil men.

tar (D, W): *n.* A black, viscous, almost solid, but sticky oil residue. It is a dry-run product used for paving, roofing, etc. Term sometimes loosely applied to heavy fuel oil. Originally applied to liquid procured from wood, coal, peat, etc.

tar distillate (D): *n.* "Distillate from a tar or residuum still."

tar plug (D): *n.* "A plug located in or near the bottom of a still for pumping out the residuum remaining after distillation."

tar well (Century D, D): *n.* "A receptacle in which is collected the tarry liquid which separates from the gas when it leaves the condensers."

t. b. p.: *n.* Abbreviation for *true boiling point* (*q.v.*).

tee (D): *n.* "A fitting, either cast or wrought, that has one single side outlet at right angles to the run."

t. e. l.: *n.* Abbreviation in general use for *tetraethyl lead* (*q.v.*).

tetraethyl lead: *n.* The chemical formula is $Pb(C_2H_5)_4$. It is an anti-knock chemical that so slows the burning of certain of the gases of the fuel in the cylinder that the explosion spreads evenly from the spark plug across the piston head, then follows it down on the power stroke.

thermal distillation: *n.* A term applied by the early refiners to the process now called *heat distillation*.

thermal efficiency (D): *n.* "The ratio of the heat utilized compared to the total heat units contained in the fuel consumed."

thermal still: *n.* A still used in *thermal distillation* (*q.v.*).

thermal unit (D, W): *n.* "A unit chosen for the comparison, or calculation, of quantities of heat, as the calorie or the B. T. U."

thief (D): *n.* An instrument for taking samples of the liquid contents of an oil storage tank. The oil is usually sampled as near the bottom as possible to determine the lowest possible level of good oil, below which there are only bad sediments. When the *thief* has indicated the lowest level of good oil, the swing line is lowered and the oil drawn off to that point. See *swing line.*

thief: *v.t.* To take a sample of the oil in a storage tank by means of the thief.

thief hatch (PI): *n.* The opening through which the samples may be taken by the thief.

throat sheet: *n.* The boiler sheet, a ring of steel plates that forms the connection between the last ring of steel plates on the boiler proper and the barrel boiler.

thumb rule: *n.* A long slender pole used in measuring contents of tanks or tank cars. The thumb marks and holds the spot at which the surface of the oil reaches when the stick is forced to the bottom of the tank. Interesting variant of *rule of thumb.*

top[1]**:** *v.t.* To skim the petroleum component that rises to the top in a vessel where there is no mixing. The lighter products, such as naphtha and kerosene, may be skimmed off. See *tops.*

top[2] (D): *v.t.* "To remove by distillation from the heavier crudes the comparatively small percentage of benzine or light engine distillate."

tops (P): *n. pl.* The unrefined distillate obtained by topping a crude petroleum. See *top*[1].

top side: *n.* Any place above ground or ground level, especially if one has had to climb through a passageway less lighted than bottom side (apparently not used by refinery men) from which one has come. Borrowed from nautical usage.

tour (P) [taur]: *n.* A shift in a factory. Same as *tower*[2] (*q.v.*). Common pronunciation in this section of the country.

tower[1]**:** *n.* Common pronunciation and spelling of *tour* (*q.v.*).

tower[2]**:** *n.* The high distillery tank. There are other towers such as the watch towers from which fire and patrol watchers guard the plant, but refinery men seldom think of these as towers.

tower bottoms: *n. pl.* Very thick, very poor material left by distillery towers as refuse. Cf. *still bottoms,* D.

tower still (D): *n.* Same as *pipe still* (*q.v.*).

transfer: *v.t.* To pump a petroleum product from one tank to another for re-treating or blending.

transfer line temperature: *n.* Maximum temperature at which gasoline goes from still to fractionating tower.

trap[1]**:** *n.* A basin or pond to which spilled petroleum or seepage in a refinery drains. The top product, mostly oil, is pumped back to be stilled.

trap[2]**:** *n.* Same as *scrubber tank* or *scrubber tower* (*q.v.*).

treat (D): *v.t.* "To purify petroleum intermediates by agitation with chemicals, or by physical absorbents, in a specially constructed type of apparatus known as an agitator or washer."

treater: *n.* A workman who treats gasoline, kerosene, or lubricating oil to remove impurities or to add properties that improve the quality.

true boiling point: *n.* The temperature at which a combination of several substances with different boiling points will boil. Usually employed only in a descriptive sense: *true boiling point distillation, curve*, etc.

tube still (PI): *n.* Same as *pipe still* (*q.v.*).

turpentine substitute (P): *n.* Petroleum spirits are called by this name, but the term is misleading. The product is not a turpentine substitute but has one definite use as a paint thinner.

unconverted olefines: *n. pl.* Olefines are hydrocarbons; the unconverted olefines are hydrocarbons in a chemically unsaturated state. See *olefin*.

unsaturated (D): *adj.* "Having the property of taking on additional products."

untest stock (D): *n.* Partially reduced steam-refined stock diluted with naphtha for filtering or cold settling.

valve seat [sæt]: *n.* So pronounced by many oil refining mechanics.

vapor lock (PI): *n.* An excessive accumulation of unexploded vapor in tubes which stops machines from functioning.

vaseline, vaselin, vaselene (D): *n.* A trade name for a yellowish, translucent, semisolid petroleum product, used in ointment and pomades, as lubricant, and in other ways; a form of petrolatum.

vis.: *n.* Short term for *viscosity* (*q.v.*).

viscosimeter (P) [vɪsko'sɪmətər]: *n.* An instrument by which the viscosity of an oil is tested.

viscosity (D): *n.* "A unit of measure of the body of an oil according to the number of seconds in which a given quantity of the product flows through an aperture at a given temperature."

volatile (W): *adj.* Readily vaporizable.

walk out[1] (D): *v.i.* To walk along a prominent bench or contour in order that one may plot geological strata within a given area.

walk out[2]: *v.i.* To walk off the job or to strike.

wantage rod ['wɑntɪdʒ]: *n.* "A gage rod for measuring the outage of a barrel, tank, or tank car."

wash (D): *v.t.* "1. To pass a gas through or over a liquid for the purpose of purifying it. 2. To cleanse or purify by agitation with a liquid which may contain cleansers, such as acid, alkali, or clay."

washer (D): *n.* "An apparatus in which gases are washed."

water finder: *n.* An instrument used to find the amount of water in an oil tank.

water proofing: *n.* An asphalt used hot or cold to coat concrete for water proofing below ground, in basements, etc.

water soluble oils (D): *n. pl.* "Oils which can form a permanent emulsion with water."

water wash: *v.t.* To clean gasoline or kerosene of impurities in the form of sulphuric acid by the doctor treatment. The terms *wash, washed, washing,* or *water washing* are all used to describe this action. Cf. *wash,* D and W.

water white (D): *n.* "A grade of color in oil, defined as plus 25 in the scale of the Lovibond or Tagliabue colorimeter."

wax (D, W): *n.* Paraffin in fine crystals suspended in the oil of which it is one fraction. It is separated by various processes, one of which is that of running the paraffin-containing fraction through the sweating plant. See *sweat.*

wax distillate (D): *n.* Neutral oil distillates before the separation of paraffin wax, the primary base for paraffin wax and neutral oils.

wax oil (D): *n.* "The immediate base from which paraffin wax and neutral oils are manufactured."

wax tailings (D): *n. pl.* "A residual product, containing chrysene, picene, and other compounds formed by destructive distillation of petroleum."

wedge burner: *n.* A high wedge-shaped furnace at or near the top of the burner into which clay saturated with oily impurities from the filtering of oil is dumped. From the top the clay is strained from high levels to lower levels until it reaches the blazing levels lower in the furnace. The strainers are large heavy iron grate-like plates over which revolving scrapers keep the clay spread and dropping through apertures that help keep it from forming large lumps or clinkers. Clay is thus kept to proper gauge and thoroughly cleansed of the impurities it has absorbed from filtering oil. The widening strainers make the burning easy and thorough.

weir[1] [WIR]**:** *n.* Present name for wax *slop* (*q.v.*). According to Mid-Continent refinery men, a man by the name of Weir perfected a method of taking wax out of wax slop, a very heavy end of petroleum. The oil containing the wax and the process are named for him.

weir[2]**:** *n.* Refining still devised and perfected by a Mr. Weir, which includes a tower equipped to measure the flow of fluids.

weir[3]**:** *n.* A sufficient barrier or obstruction about a distillation tray to keep the liquid to a desired level so that it will run off at a predetermined level. Liquids usually thus retained and run off are of the naphtha range. Cf. *weir*, W, "a dam."

weir[4]**:** *n.* A system of obstructions in a canal to retard the flow of water and thus precipitate impurities so that they will not damage the pump. Cf. *weir*, W.

weir distillate: *n.* An unfinished or heavy distillate for heavy fuels for heating. It may be rerun and become a better burning distillate after the sludge is removed. See *weir*[1, 2].

wet gas (P)**:** *n.* Gas that has considerable moisture flowing with it.

wet natural gas (D)**:** *n.* Natural gas containing readily condensable gasoline which can be extracted in quantity sufficient to warrant the installation of a plant.

white oil (PI)**:** *n.* A very clear oil that comes from the high fractions just below the volatile fuels.

white spirits (P)**:** *n. pl.* Same as *petroleum spirits* (*q.v.*).

wild gasoline (D)**:** *n.* Same as *casinghead gasoline* (*q.v.*).

wool stocks (D)**:** *n. pl.* "Sun-bleached neutral oil, compounded with lard oil to make a rich, creamy emulsion."

work: *v.t.* To process or run oil. In refinery usage the past participle of the verb refers to the completion of the refinery process on a batch of oil.

worm: *n.* A coil of pipe for condensing vapors; vapors coming off heating crude oil rise quickly to the *worm* then condense as they enter the cool pipe. Common elsewhere.

yellow dog (P)**:** *n.* A globular-base lantern using kerosene for fuel with a thick wick that, without chimney or other shelter, continues to burn in good or bad weather. Used as signal lights for trucks parked along the highway and as signal lights on derricks to give light during night drilling. The yellow quality of the light has led to the name.

yoke: *n.* A tool especially adapted to holding pipe firmly because of its binding rope-like hitch over the head of lost equipment, whether tool, pipe, or casing, that is to be recovered from a well. See *boot-jack*, *bulldog spear*, *cherry picker*, and *mousetrap*.

zero pour (PI)**:** *n.* A test to determine at how low a temperature an oil will flow and therefore lubricate.