

PIPELINE DICTIONARY OF TERMINOLOGY

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Accommodation Platform/Rig

An offshore platform, or semi-submersible rig, built or adapted to provide living quarters for drilling and production personnel.

Acreage

Land leased for oil and gas exploration and development; usually descriptive of more than one lease.

Additive

A term used generally to indicate special chemicals that may be added to products to improve their characteristics.

Air Drilling

A rotary drilling technique in which compressed air is used instead of fluids to circulate, or bring to the surface, bits of rock and other cuttings from the drill bit.

Air eliminator

A device designed to separate and remove gases (air or vapor) from the flowing stream.

Air Injection

An enhanced recovery technique in which air is injected into the petroleum formation to increase reservoir pressure.

Air Lift

A production technique in which an air balance beam pumping unit is used to lift oil to the surface.

Air/Gas lift

Lifting of liquids by injection, directly into the well, of air or gas.

Alkylation

A refining process for converting light, gaseous olefins into high-octane gasoline components (the reverse of cracking).

All-Levels

One obtained by submerging a stoppered sample beaker or bottle to a point as near as possible to the draw-off level, then opening

the sampler and raising it at a rate such-that it is about three-fourths full (maximum 85 per cent) as it emerges from the liquid. An all-levels sample is not necessarily an average sample because the

tank volume may not be proportional to the depth and because the operator may not be able to raise the sampler at the variable rate required for proportionate filling. The rate of filling is proportional to the square root of the depth of immersion.

Allowables

In most producing states the production of natural gas and oil is governed by regulations of a state agency. These agencies after study of the characteristics of a well, establish the amount of gas and/or oil which can be removed from that well each day. These quantities are "allowables "

Alloy

A composition of two or more metals.

Anode

The point where a voltaic current enters an electrolyte the positive pole, or the plate or other piece constituting it;
opposed to cathode.

Annulus

The space between the drill string and the earthen wall of the well bore, or between the production tubing and the casing.

Anticlines

Reservoir formed by folding of the rock layers or strata with oil collecting in the crest of the dome.

API

"American Petroleum Institute", headquarters of the API Division of Production are 300 Corrigan Tower Building, Dallas, Texas.

API Gravity

The universally accepted scale adopted by the American Petroleum Institute (API) for expressing the density of liquid petroleum products. The higher the API gravity, the lighter the oil.

API gravity

An arbitrary scale established by the American Petroleum institute to express gravity or density of liquid petroleum products according to a single standard. It is expressed in degrees API.

Appraisal Drilling

Drilling carried out following the discovery of a new field to determine the physical extent, amount of reserves and likely production rate of the field.

Appraisal Well

A well drilled as part of an appraisal drilling program.

Apron ring

The first or lowest ring of plates in a tank.

Apron spreader

A flat place in the bottom of a gun-barrel spreader tank that causes fluid coming into the tank to spread out.

ARDS

The refiner's shorthand for "atmospheric residual desulfurization," a refining process that removes sulfur from oils.

Aromatics

Class of hydrocarbons that have at least one benzene ring as part of their structure. Generally describes benzene and benzene derivatives. These products are used as components of unleaded gasolines and as feedstocks for petrochemicals such as cyclohexane and paraxylene, both of which are used in end products like nylons and polyesters.

Artificial Drives

Techniques for producing oil after depletion or in lieu of natural drives; includes waterflooding, natural gas reinjection, inert gas injection, flue gas injection and in-situ combustion.

Artificial Lift

Any of the techniques, other than natural drives, for bringing oil to the surface.

Associated Gas

Natural gas found in association with oil, either dissolved in the oil or as a cap of free gas above the oil.

Associated Liquids

Liquid hydrocarbons found in association with natural gas.

Auxiliary equipment

The equipment which is installed in conjunction with a meter, such as an air eliminator, strainer, vacuum breaker, or regulating valve, to permit or facilitate the use or operation of the meter.

Average sample

One that consists of proportionate parts from all sections of the container.

Aviation gasoline (Avgas)

Gasoline made especially for piston aircraft engines. It has a relatively high octane or performance rating and a distillation range between 129° F and 338° F.

Babbit

Soft, easily melted metal used for bearings.

Back-Off

To unscrew.

Back pressure

The pressure resulting from restriction of full natural flow of oil or gas.

Back-Up man

The person who holds one length of pipe while another length is being screwed into or out of it.

Baffles

Plates which change the direction of flow of fluids.

Ball and seat

The main parts of the valves in a plunger seat type oil well pumps.

Barge

Non-self-propelled marine vessel used as cargo tankers, equipment and supply carriers, crane platforms and support and accommodation bases in offshore drilling, and as submarine pipe-laying vessels.

Barrel

As the standard unit of measurement of liquids in the petroleum industry, it contains 42 U.S. standard gallons. Abbreviated to "bbl."

Barrel (U. S.)

A standard unit of measurement of liquid petroleum equal to 42 U. S, standard gallons.

Barrel-Mile

A unit of measurement of pipeline shipment of oil which signifies one barrel moved one mile.

Barrel of Oil Equivalent (BOE)

BOE = gas volumes divided by six and added to crude and natural gas volumes.

Barrel wrench

A friction wrench used in repairing oil well pumps.

Basement Rock

The ancient rock that lies below sedimentary strata; it does not contain oil or gas.

Base terminal

Installation where intake end of a pipeline is located, normally near a beachhead or port complex.

Bastard

Any equipment of nonstandard shape or size.

Batch

An integral and complete movement of one specific type of liquid, usually designated as such when moved through a pipeline. (Sometimes referred to as a "tender")

Batch change

Term used to describe circumstance associated with passage of the tail of one batch and the head of the following batch. The term is also used to state the time of arrival or departure of a batch head at or from a station or terminal.

Batch head

The downstream or leading end of a batch.

Batching

Pumping shipments or tenders or batches of a product through the line without mixing with other tenders.

Batch number

A pipeline company's identification and reference code designation for a batch of a particular product.

Batch tail

The upstream end of a batch.

Battery or bank of meters

An installation of meters connected in parallel.

Beam

The walking beam of a pumping jack or unit.

Beam well

A well using pumping jack or unit and rods to lift fluid.

Bean

A choke, used to regulate flow of fluid from a well. Different sizes of beans are used for different producing rates.

Bean back

To use a smaller size bean or choke to make the amount of production smaller.

Bedrock

The firm base rock to which is anchored the geological structure of interest to petroleum geologists.

Bell hole

A bell-shaped hole dug beneath a pipeline to provide room for use of tools.

Benzene

An aromatic hydrocarbon present to a minor degree in most crude oils. Some important products manufactured from benzene are styrene, phenol, nylon and synthetic detergents.

Big inch

Colloquialism for a 24-inch crude oil line constructed by the United States government from Texas to the East Coast during World War II.

Bird cage

To flatten and spread the strands in a wire rope.

Bird dog

To pay close attention to a job or a person, or an oil trader's helper in securing an oil or gas lease.

Blank flange

A solid disc used to dead end a companion flange.

Blank liner

A liner without perforations.

Blank-Off

To close off, such as with a blank flange or bull plug.

Blanking device

A positive mechanical means placed in a line to prevent flow of liquid. (Sometimes referred to simply as a "blind.")

Bleed into

To cause a gas or liquid to mingle slowly with another gas or liquid, usually by pressure.

Bleed off or bleed down

Reduce pressure by letting oil or gas escape bleed down at a slow rate.

Bleeder

A valve or pipe through which bleeding is done.

Blending

The technique of combining two or more petroleum liquids to produce a product with specific characteristics.

Blind flange

A simple combined steel disc and ring inserted between two flanges with the aid of jack screws, used to achieve positive separation of products.

Block

A geographical area that includes several separate oil and gas license tracts.

Block Leases

A contract with diverse owners of separately leased oil and gas tracts that enables an oil company to drill one or two test wells instead of one well per tract.

Block Number

The numerical designation assigned to offshore lease and license tracts, or subdivisions of the tracts.

Block valves

Gate valves found in the pipeline on either side of a pumping station or terminal, river crossing, or other points where the line may have to be blocked.

Blow Molding

A plastics-forming process that uses compressed air to shape the final product by expanding it to fit the mold.

Bob tail

Any short truck.

Boilerhouse

A random guess (as in "boilerhousing" a number when estimating).

Boll weevil

Any inexperienced worker or "hand."

Bonnet

The part of a valve that packs off and encloses the valve stem.

Boomer

A link and lever mechanism which is used to tighten a chain holding a load on a truck.

Booster

A pump system installed to maintain or increase pressure in pipelines so that liquids and gases keep flowing.

Booster station

A station whose function is to receive oil through a main pipeline and to transmit it to the next station, It receives no oil from any other source nor does it have a tank farm.

BOPD/BPD

Barrels of oil per day; barrels per day.

Borings sample

One obtained by collecting the chips made by boring holes with a ship auger from top to bottom of the material contained in a barrel, case, bag, or cake.

Bottoms

The heavy portions, or fractions, of a crude oil that do not vaporize during distillation; the accumulation of sediments, mud and water in the bottoms of lease tanks.

Bottom-hole Assembly

The components, together as a group, that make up the lower end of the drill string – comprising the drill bit, drill collars, drill pipe and ancillary equipment.

Bottom-hole pressure

The pressure at the bottom of a well.

Bottom Out

To reach the objective depth in drilling a well.

Bottom sample

One obtained from the material on the bottom surface of the tank, container, or line at its lowest point.

Bottom water

Water occurring in a producing formation below the oil or gas in that same formation.

Bowl

A device into which fit the slips or wedges which support tubing.

Bradenhead gas

Commonly called casinghead gas; gas that is produced with oil or from the casinghead of an oil well.

Break out

To loosen a tight joint as in line pipe or sucker rods.

Breathing

The flow of air or gas into and out of vent lines of a partially filled storage tank, caused primarily by temperature variations.

Bridle

The portion of a well pumping unit which connects the horse head to the well pump.

BS&W

Basic sediment and water, generally pipeline regulation limits the contents of BS&W to 1 per cent of the volume of oil.

Bubble point

The temperature-pressure condition of a liquid under which the first vapor evolution begins.

Buck up

To tighten a threaded connection.

Buffer batch ("kero plug")

A liquid, usually kerosene or a solvent, inserted to separate different products with a minimum of product degradation (contamination).

Bulk products

Petroleum products transported and stored in pipelines, tankers, barges, rail tank cars, and tank trucks, as distinct from packaged products.

Bump down

To have too long a length of rods between the pumping jack and the pump seat so that the pump hits bottom on the downstroke.

Bump off a well

To disconnect a pull-rod line from a central power unit. Same as "knock off a well."

Burn pit

An earthen pit in which waste oil and other materials are burned.

Bust

An error.

Butadiene

A butane derivative that is one of the most widely used raw materials used in the manufacture of synthetic rubber.

Butane

Refers usually to a mixture of isobutane and normal butane. A flammable, gaseous hydrocarbon. Used as fuel.

Bypass

A pipe connected around a valve or other control mechanism in a flow line for the purpose of maintaining flow during adjustments or repair work.

By-product

A substance obtained incidentally during the manufacture or production of some other substance.

C-store

Convenience store.

Cage

The part of a pump valve which holds the ball to limit its movement.

Calibrate a volumetric or gravimetric prover

To establish the true volume of a volumetric meter prover or the accuracy of the scale of a gravimetric prover.

Calibration tank

A small tank of known capacity which is used in conjunction with flow meters to measure the accuracy of the meters.

Calorimeter

An instrument which measures the amount of heat given off by a certain quantity of fuel. In the case of El Paso Natural Gas Company, Calorimeters are used to determine the number of BTU's which are obtained from burning one cubic foot of gas.

Cap Rock

An impervious layer of rock that overlies a reservoir rock, thus preventing hydro- carbons from escaping to the surface.

Capillaries

The minute spaces, cracks or pores in rock through which hydrocarbon fluids move in response to natural forces.

Capping

Tightly closing a well so that oil or natural gas cannot escape.

Carbon

The base of all hydrocarbons; capable of combining with hydrogen in almost numberless hydrocarbon compounds. The carbon content of a hydrocarbon determines, to a degree, the hydrocarbon's burning characteristics and qualities.

Casing

Steel pipe that is cemented into a well to prevent the well bore wall from caving in, to stop drilling fluids from losing circulation and to prevent water and other fluids from invading the well bore.

Casinghead gasoline

Natural gasoline which is vaporized within natural gas when it is removed from the well.

Casing Perforation

The holes made in the liner of a finished well to allow oil or natural gas to flow into the production tube.

Casing pressure

Gas pressure built up between the casing and tubing.

Casing Seat

The lowest point at which casing is set.

Casinghead

The top of the casing set in the well; the part of the casing that protrudes above the surface and to which the control valves and flow pipes are attached.

Casinghead Gas

Gas produced with oil from an oil well as distinguished from gas from a gas well. The casinghead gas is taken off at the top of the well or at the separator.

Casinghead Gasoline

Liquid hydrocarbons separated from casinghead gas by the reduction of pressure at the wellhead or by a separator or an absorption plant.

Catalyst

Substance that aids or promotes a chemical reaction between other substances, but does not, itself, enter into the reaction.

Catalytic Cracking

A petroleum refining process in which heavy hydrocarbon molecules are broken down (cracked) into lighter molecules by passing them over a suitable catalyst (generally heated).

Cat

A crawler-type tractor.

Cathead

A spool-shaped attachment on a winch around which rope is wound for hoisting and pulling.

Cathode

A negative pole of an electrolytic cell.

Catline

A hoisting or pulling line operated from a cathead.

Cat walk

The narrow walkway on top of a tank battery.

Caustic

A corrosive capable of eating away or destroying matter. The term is applied to the destructive action of powerful alkalis such as the hydroxides.

Cellar

A hole dug, usually before drilling of a well, to allow working space for the casinghead equipment.

Cementing

The technique of pumping cement into the space between the casing and the well bore wall in order to hold the casing in place.

Centrifuge

An instrument for separating liquid of different specific gravities by use of centrifugal force, used in the petroleum laboratory for determining FW&S (free water and sediment) and solid matter in petroleum samples.

Centrifugal compressor

A compressor which exerts force on gas by a spinning motion. Natural gas is fed to the center of the "impeller" which is spinning at high speed and, partly from the centrifugal force of the spinning and partly from the action of the blades of the impeller, is hurled outward to the walls of the compressor chamber.

Centrifugal force

A force developed by the rotation of a body force which tends to throw the body away from the center of rotation.

Centrifugal pump

A pump consisting of one or more impellers fixed on a rotating shaft. The liquid enters the impeller at the shaft and is impelled outward from the center by centrifugal force at high velocity into the volute of the pump casing. This pump has the advantage of constant pressure.

Chase threads

To straighten and clean threads of any kind.

Cheater

A length of pipe used to increase the leverage of a wrench.

Check valve

A device operated by gravity and pressure and used to restrict flow to one direction; installed to protect against surge pressure, hold product when pressure is released, and to fill tanks.

Choke

A device to restrict the rate of flow during the testing of an exploratory discovery.

Chisel tongs

Pipe tongs that grip the pipe with a chisel-like insert in the jaw of the wrench.

Choke

A flow-restricting device, sometimes fixed, installed in a line.

Christmas tree

On oil and natural gas wells it is usually necessary to establish a series of valves to control the pressure and rate of flow of the gas and/or oil from that well. This set of valves is known as a Christmas Tree.

Chromemeter

An instrument used for determining the color of gasolines, kerosenes, and white oils.

Circulation

The techniques for bringing rock cuttings from the bottom of the well bore to the surface by continuously pumping drilling mud down through the drill string and up the annulus during rotary drilling.

Clarifier

Equipment in which solids suspended in a liquid are allowed to settle for removal.

Class of fire

(1) Class A fires. Fires of ordinary combustible materials, such as paper, wood, textiles, and rubbish. Class A fires may be extinguished by water.

(2) Class B fires. Fires of flammable liquids such as gasoline, oils, and greases. Class B fires must be smothered.

(3) Class C fires. Fires in electrical equipment, which require the use of a nonconducting extinguishing agent.

Clean Circulation

Descriptive of drilling muds returning to the surface without rock cuttings.

Clearance sample

A spot sample taken 4 inches below the level of the tank outlet.

Clip

A U-bolt or similar device used to fasten parts of a wire cable together.

Closed-In

A well capable of producing oil or gas, but temporarily shut in.

Closed-in

Descriptive of a well that is capable of producing, but is not producing at the time.

Close nipple

A very short piece of pipe having threads over its entire length.

Coal

A solid fossil fuel consisting mainly of carbon produced by the compression of decayed plants.

Coalbed Methane

A methane-rich, sulfur-free natural gas contained within underground coal beds.

Cogeneration

The simultaneous production of electricity and steam from a single process, which requires up to one-third less fuel than separate production.

Coke

Hard carbon and other crude oil impurities that can form inside furnace tubes.

Collar

A pipe coupling threaded on the inside.

Color change

An alteration in appearance which results when two different colored products join or commingle in a pipeline. This change assists in determination of the location of "batch heads" in the stream flow.

Combination traps

A reservoir formed by a combination of folding, faulting, changes in porosity, or other conditions.

Combustible

Capable of taking fire and burning; that part of a fuel which burns or gives off heat.

Come-Along

A stretching or tightening device that crawls along a length of chain.

Commercial Field

An oil or natural gas field that, under existing economic and operating conditions, is judged to be capable of generating enough revenues to exceed the costs of development.

Commingling

Producing oil and gas from two or more reservoirs at different depths.

Commingling spread

The distance in the stream flow in a pipeline which comprises the extent of mixing at the tail end of one batch and the head of the succeeding batch.

Common carrier

Any transportation system available for use by the public for transporting cargo. Almost all pipelines are common carriers.

Completing a Well

The process by which a finished well is either sealed off or prepared for production by fitting a wellhead.

Composite sample

One made up of equal portions of two or more spot samples obtained from a tank. The term also applies to a series of line samples obtained from a free-flowing pipeline.

Composite spot sample

A blend of spot samples mixed in equal proportions for testing. Tests may also be made on the spot samples before blending and the results averaged. Spot samples from crude oil tanks are collected as follows:

(1) Three-Way--On tanks larger than 1,000 barrel capacity which contain in excess of 15 feet of oil, samples should be taken at the upper, middle, and lower, or outlet connection of the merchantable oil, in the order named. On tanks of 1,000-barrel capacity and under, this method may be used, also.

(2) Two-Way-On tanks larger than 1,000 barrel capacity which contain in excess of 10 feet and up to 15 feet of oil, samples should be taken at the upper and lower, or outlet, connection of the merchantable oil, in the order named. On tanks of 1,000-barrel capacity and under, this method may also be used.

Compressibility

The algebraic sum of the true compressibility of a liquid and the enlargement of the apparent confining container as a result of pressure.

Compressibility true

The absolute decrease in volume of a liquid caused by an increase in pressure.

Compression ignition engine

A diesel engine.

Concession

A geographic area that is licensed or leased to a company for a given period for exploration and development under specified terms and conditions.

Condensate

A term used to describe light liquid hydrocarbons separated from crude oil after production and sold separately.

Condensate

Hydrocarbons which are in the gaseous state under reservoir conditions but which become liquid either in passage up the hole or at the surface.

Cone-roof tank

Tank with a fixed roof slightly higher in the center than at the side walls; best adapted to storage of the less volatile fuels such as kerosene and diesel oil.

Congeval

Thickening of oil at temperatures below the pour point. (The pour point for a given liquid is the lowest temperature at which it will flow.)

Connate water

Water inherent to the producing formation; or fossil sea water trapped in the pore spaces of sediments during their deposition.

Connection

The joining of two lengths of pipe.

Conservation

Regulation of oil and/or gas production from a reservoir in order to prolong its life and hopefully recover a larger quantity of the oil or gas in place; reinjection of associated gas for future use. Also, environmental protection and preservation.

Consortium

A group of unrelated companies acting together in a specific venture.

Contain

A condition of calibration of a vessel, wherein the volume of the vessel is determined starting with the internal surfaces dry and free of the calibrating liquid; i.e., the vessel will "contain" its calibrated volume.

Contamination

The corruption of a product by material not normally present. Such as dirt, rust, water, or another products.

Continental Shelf

The edge of a continental mass that lies under the sea in comparatively shallow water (up to a water depth of about 800 feet).

Continuous sample

One obtained from a pipeline in such manner as to give a representative average of a moving stream.

Copolymer

A polymer manufactured from two or more different monomers. An example is butadiene-styrene.

Corrosion

Deterioration or "eating away" of a material, usually metal, resulting from chemical or electrochemical action.

Counter

A term sometimes used when referring to a meter register. See "register" and "register drive magnetic" for preferred nomenclature.

Coupon

Small metal strip which is exposed to corrosive systems for the purpose of determining nature and severity of corrosion.

Co-venturer

A person or company joined with others in a particular venture.

Cracking

The refinery process in which large, heavy, complex hydrocarbon molecules are broken down into simpler and lighter molecules in order to derive a variety of fuel products.

Crack a valve

To barely open a valve so that it leaks just a little.

Crater

To fail.

Crowbar connection

A connection made with the parts in a bind or in a strain; a connection which required force to be put together.

Crown block

Sheaves and supporting beams on top of derrick.

Crude

Unrefined petroleum.

Crude Oil

A mineral oil consisting of a mixture of hydrocarbons of natural origin, yellow to black in color, of variable specific gravity and viscosity; often referred to simply as crude.

Crumb

To smooth out and even up the bottom of a ditch in which pipe is to be laid.

Cut

A fraction, or portion, of distillate separated from other portions in fractional distillation of petroleum. Oil that contains water, also called wet oil.

Cyclohexane

The cyclic form of hexane; used as a raw material in the manufacture of nylon.

Dead man

A piece of wood or concrete, usually buried, to which a wire guy line is attached for bracing a mast or tower.

Dead well

A well that will not flow.

Deadwood

Structural members on the interior of tanks. Their volume is deducted when computing the capacity of a tank.

Debottlenecking

Increasing production capacity of existing facilities through the modification of existing equipment to remove throughput restrictions. Debottlenecking generally increases capacity for a fraction of the cost of building new facilities.

Decommission

To remove from service. See our Maureen site for more information.

Deep-Water Discovery

An offshore discovery located in at least 600 feet of water.

Dehydration

The removal of water and water vapor from natural gas.

Delineation Well

A well drilled at a distance from a discovery well to determine the physical extent, reserves and likely production rate of a new oil or gas field

Deliver

A condition of calibration of a vessel, wherein the volume of the vessel is determined starting with the internal surfaces wetted with the calibrating liquid: i.e., the vessel will "deliver" its calibrated volume.

Deliveryman

An employee representing the shipper who takes delivery of oil from a pipeline company at a terminal or junction.

Delivery, over-or-under

The volume obtained by subtracting the meter registration from the quantity measured in the prover and expressing the difference in units such as cubic inches per test measure, cubic inches per gallon, or cubic inches per barrel. Over delivery will be indicated if the algebraic result has a plus sign, under delivery will be indicated if it has a minus sign.

Delivery (test draft)

The actual volume delivered by a meter as measured in a prover.

Demurrage

A charge made for a delay beyond a specified date for the loading or unloading of a product.

Depletion

A deduction allowed in computing the taxable income from oil and gas wells.

Density

The mass (weight) per unit volume, such as pounds per cubic foot or grams per cubic centimeter.

Derrick

The elongated pyramid of latticed steel mounted over the bore hole for drilling and well-servicing purposes.

Desulfurization

Processes by which sulfur and sulfur compounds are removed from gases or petroleum liquid mixtures.

Development

The phase in which newly discovered or proven oil or gas fields are put into production by drilling and completing production wells.

Development Well

A well drilled with the intent of producing oil or gas from a proven field.

Development well

When a field of natural gas and/or oil has been discovered it is necessary to drill wells at specified intervals in order to achieve an economic flow from that field. A well drilled in order to obtain production from gas or oil known to exist is a development well.

Deviated Well

A well drilled in such a way that its controlled direction departs progressively from the vertical; such wells are drilled in order to reach different parts of a reservoir from a single platform.

Diesel engine

An internal combustion engine of the constant pressure type having an extremely high compression pressure which creates heat for ignition and a correspondingly high efficiency. In this engine, only pure air is compressed. At the end of the compression stroke, the liquid fuel is sprayed into the cylinder and is ignited by contact with the highly heated air. The speed and load are controlled by increasing or decreasing the duration of the oil injection.

Diesel fuel

The fuel used for internal combustion in a diesel engine.

Diesel Fuel

The light oil fuel used in diesel and other compression-ignition engines.

Diffusion

Spontaneous mixing of two substances in contact.

Dipper sample

One obtained by placing a dipper or other collecting vessel into the path of a free-flowing stream so as to collect a definite

volume from the full cross section of the stream at regular time intervals for constant rate of flow or at time intervals varied in proportion to the rate of flow.

Directional Drilling

A technique whereby a well is deliberately deviated from the vertical in order to reach a particular part of a reservoir. See deviated well.

Discharge pressure

The pressure generated by a pump and registered as the liquid is discharged from the pump.

Discovery Well

An exploratory well that finds hydrocarbons.

Dispatcher

The person who coordinates and controls the flow of product through the pipeline system according to schedules and directives.

Disposal

A well through which water (usually salt well water) is returned to subsurface formations.

Distillates

The distillate or middle range of petroleum liquids produced during the processing of crude oil. Products include diesel fuel, heating oil, kerosene and turbine fuel for airplanes.

Distillation

The first stage in the refining process in which crude oil is heated and unfinished petroleum products are initially separated.

Doghhouse

A small house used for keeping lease records, changing clothes, or any other use around a lease.

Dog leg

A bend in a pipe, a ditch, or a well.

Domes

Reservoir formed by folding of the rock layers or strata with oil collecting in the crest of the dome.

Donkey pump

Any little pump, used for many kinds of small temporary pumping operations.

Door sheet

A plate at the base of a tank shell or wall which is removed when the tank is to be cleaned.

Dope

Material used on threads of pipe or tubing to lubricate and prevent leakage.

Doping and wrapping machine

A device which applies a coat of asphalt preservative and then automatically adds a wrapping of spun glass which is then covered by a layer of paper. All of these functions are performed successively in one operation as the machine moves along the pipe. This machine follows the scraping and priming machine.

Double joint

Two lengths or joints of pipe joined together.

Doughnut

A ring of wedges that supports a string of pipe or a threaded, tapered ring used for the same purpose.

Downcomer

A pipe through which flow is downward.

Downhole

A term to describe tools, equipment and instruments used in the well bore.

Downhole Safety Valve

A valve fitted into the production tubing of a well some distance

below the surface. The valve can be closed in an emergency to stop the flow of oil and gas.

Downstream

The oil industry term used to refer to all petroleum activities from the processing of refining crude oil into petroleum products to the distribution, marketing, and shipping of the products.

Dozer

A powered machine for earthwork excavations.

Drainage time for test measures

The drainage time for test measures; time for 10-gallon capacity or smaller shall be 10 seconds from the time the flow ceases and dripping commences and 30 seconds for test measures exceeding 10-gallon capacity.

Drain sample

One obtained from the draw-off or discharge valve. Occasionally the drain sample may be the same as a bottom sample, as in the case of a tank car.

Drake well

Generally recognized as the first oil well drilled in the United States, It was completed in 1859 by "Colonel" Edwin L. Drake,

Dresser sleeve

A slip-type collar that is used to join plain-end pipe.

Drifter

A worker who never stays long in one place.

Drill Bit

The part of the drilling tool that actually cuts through the rock. Drill bits bore a hole into soil, sand or rock by a combination of crushing and shearing actions. Drill bits used for extra-hard rock are studded with thousands of tiny industrial diamonds, the hardest substances known.

Drill Collars

Devices made of extra-heavy steel tubing mounted just above the drill bit to maintain pressure on the bit and keep the drill string in tension.

Drill String

The long assembly of drill bit, drill collars and many lengths of pipe that is turned by the rotary table and cuts through the rock.

Drilling Mud

A mixture of clays, water and chemicals pumped in and out of the well bore during drilling. Drilling mud provides circulation, flushing rock cuttings from the bottom of the well bore to the surface. It maintains pressure at the bottom of the well bore and cakes the uncased well bore wall to provide some protection against cave-ins.

Drilling Platform

An offshore platform used to drill exploration and development wells but lacking the processing facilities of a production platform.

Drilling Rig

The complete machinery and structures needed for drilling a well.

Drilling Table

The turning device on the derrick floor in which the drill string is held and rotated. Also called a rotary table.

Drillship

A ship fitted with a drilling derrick that is used to drill in waters that are too deep for jack-up rigs and semi-submersible rigs.

Drip

Equipment designed to remove small quantities of liquids from a gas stream.

Drum

A container, usually metal, for fuels.

Dry gas

Natural gas that is produced without liquids; also a gas that has been treated to remove all liquids.

Dry Gas

Natural gas with so little natural gas liquids that it is nearly all methane.

Dry hole

A drilled hole which does not yield gas and/or oil in quantity or condition to support commercial production is known as a dry hole.

Dry Hole

A well that does not find oil or gas in commercial quantities. Definitions of commercial vary according to the costs of exploration. A shallow well in the old oil patch in the United States might be commercial when it can produce less than 10 barrels of oil per day, while an offshore well might not be commercial unless it produces several thousand barrels of oil per day.

Dual Completion

A well completed to produce from two separate reservoirs.

Dual Discovery

An exploratory well that finds petroleum in two separate reservoirs.

Ductility

The property of a material, especially metal, which allows it to be drawn or hammered without cracking or breaking; the unit of plasticity or of the internal adhesion of particles.

Dutchman

A piece of pipe that has been twisted off inside a female connection; or a short section of material, such as belting or

pipe, used to lengthen existing equipment.

Dye plug

A mixture of water and dye, insoluble in petroleum products, which is injected in the stream flow between two like products whose specific gravity does not vary more than 2 degrees API. The color change indicates a new batch head.

Effluent

Waste liquid, gas or vapor that results from petroleum and chemical processing.

Engine

A device for transforming energy from one state into another. In general, a device for transforming heat or other energy into mechanical energy of force and motion.

Enhanced Oil Recovery

Recovery of oil or gas from a reservoir by artificially maintaining or enhancing the reservoir pressure by injecting gas, water or other substances into the reservoir rock.

Equilibrium pressure

The vapor pressure of a liquid at a given temperature, expressed in pounds per square inch gage. See vapor pressure (absolute, true).

Erosion

The processes whereby earth and rock material are loosened or dissolved by water and removed from any part of the earth's surface, including the processes of weathering, solution, corrosion, and transportation.

Ethylene

Basic chemical used in the manufacture of plastics (such as polyethylene), antifreeze and synthetic fibers.

Expansion loop

A bend placed in a line to absorb stretch or shrinkage.

Exploration Drilling

Drilling carried out to determine whether hydrocarbons are present in a particular area or structure.

Exploration License

A license to explore for oil or gas in a particular area issued to a company by the governing state.

Exploration Phase

The phase of operations in which a company searches for oil or gas by carrying out detailed geological and geophysical surveys, followed up where appropriate by exploratory drilling in the most promising places.

Exploration Rig

A structure used to carry the equipment needed for exploratory drilling. See semi-submersible rig.

Eyeball

To straighten or align pipe by eye.

Exploration

Generally speaking, this term refers to the several methods of locating geological traps in which gas or oil can be found. Included would be the use of magnetometers, gravity meters, seismic exploration, surface inspection, and other such methods. Occasionally, the term is also used to refer to wildcat exploratory drilling.

Explosimeter

An instrument for determining the explosibility of a gas-air mixture; used as a safety device to locate hazardous areas in petroleum operations.

Fatigue

Failure of a metal under repeated loading.

Fault trip

Reservoir formed by breaking or shearing and offsetting of strata. Oil collects in high points of the permeable layers and is trapped by impermeable layers.

Federal Power Commission

An agency established by Congress to regulate interstate commerce in natural gas and electricity.

Feeder station

A pumping station used to boost the discharge from tank farms to the suction of a pipeline pumping station.

Feedstock

Crude oil, natural gas liquids, natural gas or other materials used as raw ingredients for making gasoline, other refined products or chemicals.

Feet of head

The measure of pressure in terms of the height in feet of a column of a given fluid. This measurement is convenient for use in hydraulic design of pipelines, since it can be applied directly to terrain elevations. It is also called "head."

Female connection

A pipe or rod coupling with the threads on the inside.

Field

The area around a group of producing oil wells.

Field

A geographical area under which a producing or prospective oil and/or natural gas reservoir lies.

Field Potential

Estimate of the producing capacity of a field during a 24-hour period.

Filter

A vessel usually installed upstream from a meter and equipped with a medium intended to remove foreign matter from the flowing stream.

Filter-separator

Same as above but intended to remove water in addition to foreign matter.

Fire wall

A wall of earth built around an oil tank to hold the oil if the tank breaks or burns.

Firm load

Natural gas which is supplied to a customer twenty-four hours per day, all days of the year, is referred to as a firm load. A household, for example, is a firm customer and natural gas service is supplied at all times. In the summertime or on warmer days the amount of gas which is needed is usually small. On winter days the amount of gas which is required is usually comparatively great. In other words, a firm customer is assured of continuous natural gas service, regardless of weather conditions. (see; Interruptible Load.)

Fittings

The small pipes and valves that are used to make up a system of piping.

Flame arrester

A mechanical safeguard which protects petroleum from ignition by a source outside the storage container.

Flange

A projecting rim, edge, lip, or rib to provide strength for guiding or for attachment to another object, as a plate to close a pipe opening or other orifice.

Flange-Up

To join two pipes by means of flanges. By extension it also means to complete any assigned job or operation.

Flare

An open flame used to burn off unwanted natural gas.

Flare Stack

The steel structure on an offshore rig or at a processing facility from which gas is flared.

Flash

To suddenly release pressure on a liquid, resulting in partial or complete vaporization sometimes known as flashing.

Flash point

The lowest temperature at which a petroleum product, under specified test conditions, vaporizes rapidly enough to form above its surface an air-vapor mixture which gives a flash (small explosion) when ignited by a small flame. There must be enough vapor to provide momentary ignition but not enough to cause continuous burning.

Flexible joint

Any joint between two pipes that permits one to be deflected without disturbing the other.

Float

A long flatbed semi trailer.

Floating roof

A roof which rests on the surface of the oil contained in a tank rather than on structural members. It rises and falls with the level of the liquid in the tank.

Floating tank

A tank whose main gate valve is open to the main line at a station. Oil from the main line may enter the tank and leave it as pumping rates in the line vary.

Flow a well hard

To let a well flow at too high a rate.

Flow bean

A plug in the flow line at the wellhead which has a small hole drilled through it through which oil flows, and which keeps a well from flowing too high a rate.

Flow by heads

A well flowing oil at irregular intervals.

Flow chart

A chart made by a recording meter which shows rate of production.

Flowing well

A well which produces oil or gas without any means of artificial lift.

Flow lines

The surface pipes through which oil travels from the well to storage.

Flow meter

A device which measures quantity of product flowing through the pipeline. It provides data for use in control of products in a pipeline, and industrially it provides data for billing and accounting purposes.

Flow-rate-limiting-device

A mechanical device installed in a line and operated in such a manner as to prevent the rate of flow

through the meter from exceeding the maximum desired flow rate.

Flow tank

A lease storage tank to which produced oil is run.

Flow treater

A single unit which acts as an oil and gas separator, an oil heater, and an oil and water treater.

Fluid

A substance having particles which easily move and change their relative position without separation of mass. Fluids are capable of flowing and take the shape of whatever container they occupy.

Fluid injection

Injection of gases or liquids into a reservoir to force oil toward and into producing wells.

Fluid level

Distance between wellhead and point to which fluid rises in the well.

Flush production

The high rate of flow made by a good well right after it is drilled.

Foreign matter

Any material such as sand, dust, dirt, or scale, present in a pipeline, in tanks, or in the product.

Formation pressure

Pressure at the bottom of a well that is shut in.

FPSO

Floating production, storage and offloading facility.

Fractionating Column

A tall tower, fitted with perforated trays, in which fractional distillation of crude oil or its products is carried out.

Fractionation

The process for breaking natural gas liquids into component parts -- methane, ethane, propane, butane, pentane and heavier hydrocarbons.

Fractionation

The separation of a mixture of liquids into its various components. At El Paso Natural Gas Company this term usually refers to the separation of butanes, propane, and natural gasoline from each other.

Fracturing

Application of hydraulic pressure to the reservoir formation to create fractures through which oil or gas may move to the well bore.

Free storage

Storage furnished by the pipeline to shippers without charge.

Frost up

Icing of equipment due to the cooling effect of expanding gas.

Frozen up

Said of equipment of which the components do not operate freely.

Fuel oil

Any liquid petroleum product used for the generation of heat in a firebox or furnace or for the generation of power in engines, excluding oils burned in wick burners and certain other oils. Fuel oils in common use fall into one of four classes:

(1) Residual fuel oils, which are topped crude oils or viscous residuum obtained in refining operations.

(2) Distillate fuel oil, which is a distillate derived directly or indirectly from crude petroleum.

(3) Crude petroleum and weathered crude petroleum of relatively low commercial value.

(4) Blended fuels, which are mixtures of two or more of the preceding classes.

Fuel Oils

The heavy distillates from the oil refining process that are used primarily for heating, for fueling industrial processes, for fueling locomotives and ships, and for fueling power generation systems.

Gage

An instrument used to measure either the contents or the capacity of a container; a standard measure of dimensions, distance, or capacity; an instrument for measuring sizes of standard manufactured materials or for determining pressures; often spelled "gauge."

Gage sight glass

Heavy glass plates attached to a water column or to suitable gage-glass cocks to furnish a visual indication of the level of the water or liquid within the vessel. For steam boilers, proper legal rules must be followed.

Gage tables

Sheets prepared to show the amount of fluid contained at specific levels in a storage tank, with graduations usually down to 1/8 or 1/4 inch.

Gage tape

Flexible steel measuring tape calibrated in feet and inches and fitted with a brass plumb bob at end, used in conjunction with the proper gage table to determine the quantity of product in a tank.

Gallon (U. S.)

Unit of liquid volume equal to 231 cubic inches or 3.785 liters.

Gas Field

A field containing natural gas, but no oil.

Gas Injection

An enhanced recovery technique in which natural gas is injected under pressure into a producing reservoir through an injection well to drive oil to the well bore and the surface.

Gasket

Material inserted between metal surfaces and kept under pressure for the purpose of keeping the joint

tight.

Gas-oil ratio

The gas-oil ratio of a well is almost always expressed in terms of the number of cubic feet of natural gas produced per each barrel of oil. This ratio is of significance in classifying wells as gas wells or oil wells. A regulatory agency of one state, for example, considers a well producing more than 100,000 cubic feet of natural gas to one barrel of oil to be a gas well. A well which produces less than 100,000 cubic feet of gas per barrel of oil is considered an oil well and is subject to regulation as an oil well. In other states and in various private contracts, other ratios are used.

Gasoline

The light fuel used to spark ignition engines in cars, motorcycles, etc. Modern gasolines are blends of petroleum liquids that are produced in several different processes and which generally contain additives.

Gate valve

A valve in which the line-crossing element is a gate in the form of disks or wedges which are raised to permit flow or lowered to stop flow.

Gathering line

A pipeline, usually of small diameter, used in gathering crude oil from the wellhead and transporting it to field storage.

Gathering Lines, Systems

The piping networks installed in oil or gas fields to transport petroleum to a processing plant or bulk shipping point.

Gathering system

A system of pipelines laid to bring gas or oil from wells to a central point.

Gauging

Determining the volumetric contents of a tank.

Gauging nipple

A small section of pipe in the top of a tank through which a tank may be gauged.

Gin-Pole Truck

A truck equipped with a pair of poles and hoisting equipment for use in lifting heavy machinery around a lease.

Girth or Girt

One of the horizontal braces between the legs of a derrick.

Globe valve

A valve with a rounded chamber containing beveled valve disk which is pressed against a seat to effect closure.

Go-devil

A scraper that is run through the pipeline to clear out loose objects and clean the wall of the line. See pig.

Gone to water

Describes a well in which water production is increasing.

Grab sample

One obtained by collecting loose solids in equal quantities from each part or package of a shipment and in sufficient amount to be representative of all sizes and components.

Graduated neck

A portion of a prover at either its top or bottom or both, of reduced cross-section, graduated to permit close incremental reading of the volume in the prover.

Graduate, laboratory

A glass cylinder, usually graduated in milliliters.

Graphic dispatching

A method of dispatching based on the right triangle in which the X-axis represents line-fill distance and the Y-axis represents intervals of time. The resultant hypotenuse represents the rate of flow of product through the pipeline.

Grass gooser

A hoe or other kind of weed cutter.

Gravity selector

A mechanism used to adjust a temperature compensator to change its performance according to the coefficient of thermal expansion of the liquid being metered.

Gravity specific

The ratio of a given volume specific of liquid hydrocarbon to the weight of the same volume of distilled water, both liquids being at a temperature of 60° F and both weights being corrected for the buoyancy of air.

Grease-gun valve

A hand-operated gun similar to motor-vehicle grease guns, but larger. It is used to apply grease to grooves in plug valves to give the valve its sealing capability.

Grease sample

One obtained by scooping or dipping a quantity sample of soft or semi-liquid material, such as grease, from a package in such a manner that the material on the scoop or dipper is representative of the material in the package.

Grind out

Colloquial term for centrifuge test.

Grind out machine

Centrifuge.

Guy wire

A rope or cable used to steady a mast or pole.

Handy

A connection that can be unscrewed by hand.

Hang a well off

To stop operation of jack operating from a central power unit by disconnecting the rod line.

Hatch

An opening into a tank, usually through the top deck.

Hay tank

A tank or enclosure filled with hay-like material used to filter oil out of water.

HDPE

High-density polyethylene. Used in the manufacture of plastic items, such as plastic pipe, grocery bags, water coolers and milk bottles.

Headache

A warning cry given when anything is dropped from overhead.

Headache post

A frame built over a truck cab to prevent pipe from falling on the cab.

Heat (a connection)

To loosen a collar or other threaded connection by striking it with a hammer.

Heart cut

Delivering from the middle portion of the batch in the pipeline.

Heavy Bottoms

Thick, black substances that remain in refinery stills after all lighter fractions have been processed out of the feedstock.

Heavy Crude

Crude oil of 20 degree API gravity or less; often very thick and viscous.

Hexane

A petroleum liquid found in small amounts in condensates; one of the components of natural gasoline.

Hexene-1

A key feedstock in the manufacture of many high-density and linear low-density polyethylene resins, which are used to make food and drink containers, trash bags, plastic pipe and other consumer products.

High-vapor-pressure

A liquid which, at the proving temperature of the meter, has an absolute vapor pressure liquid equal to or higher than existing atmospheric pressure.

Hold-Down

A clamp used on rod-line posts to keep the rod from moving in any direction but back and forth.

Holiday

A gap or void in the coating of a pipeline or in paint on a metal surface.

Holiday detector

An electrical device used to detect weak places or holidays in pipeline and other coating.

Horizontal Drilling

The technique for cutting a hole in geological strata in a horizontal, rather than the normal vertical, direction.

Horse head

The well pump end of the walking beam on a well pumping unit. It is called a horse head because of

the resemblance of a horse head.

Hot oil

Oil produced in violation of state regulations or transported interstate in violation of federal regulations.

House brand

Regular grade gasoline.

Hydraulic head

Pressure exerted by, or imparted to, a column of fluid. It is usually expressed in feet or inches of water or other liquid. It may be converted to psi.

Hydrocarbon

A compound consisting only of molecules of hydrogen and carbon.

Hydrocarbons

Organic chemical compounds of hydrogen and carbon atoms that form the basis of all petroleum products. They may exist as solids, liquids or gases.

Hydrometer

An instrument used for determining the specific gravity or API gravity of a fluid by the principle of flotation. The hydrometer is floated in the fluid and sinks to a greater or less depth, depending upon the density of the fluid.

Hydrotreating

A refinery process to remove sulfur and nitrogen from crude oil and other feedstocks.

ICC

"Interstate Commerce Commission"; a federal board which has jurisdiction over pipelines engaged in interstate commerce.

Idiot spoon

Any shovel, rake, hoe, or other similar or stick hand tool.

Ignorant end

The heaviest end of a piece of equipment.

Improved Recovery

Technology for increasing or prolonging the productivity of oil and gas fields. This is a special field of activity and research in the oil and gas industry.

Inflammable

Capable of being ignited easily and burning rapidly. Military usage prefers the term "flammable."

Inhibitor

A chemical used to inhibit or retard internal corrosion of pipelines.

Injection Molding

A plastics-forming process in which molten plastic is forced into a mold under pressure and allowed to solidify.

Injection Well

A well used to inject gas or water into the reservoir in order to maintain reservoir pressure in secondary recovery projects or for conservation purposes.

Innage

Either the volume of liquid present in a storage tank or the measured height of liquid in a tank or

container; converse of
outage.

In Situ combustion

The setting afire of some portion of the reservoir in order that the gases produced by combustion will drive oil ahead of it to the producing wells.

Insulating flange

A flange which incorporates plastic pieces to separate the metal parts.

Insulators flange and bolt

Devices used as a means of cathodic protection, and usually placed at a flange where lines of two owners are connected or where sections of a pipeline to be protected are joined.

Interface

Mixture of two products that is formed as a result of being transported next to each other in the pipeline. (See Transmix.)

Intermediate gears

The gear or system of gears which transmits the motion of the measuring element to the register, ticket printer, or both.

Interruptible load

Many consumers of large quantities of gas purchase gas on an availability basis. Such customers have a stand-by source of an alternate fuel (oil, coal, wood, or liquefied petroleum gas, for example) which can be used when natural gas is not available. On extremely cold days it is the practice to make greatly increased deliveries to "firm" customers and to reduce or cease deliveries of natural gas to interruptible customers.

Invasion lines

Pipelines laid immediately behind the battle front during World War II.

Jack

An oil well pumping unit that operates with an up-and-down, or seesawing, motion; also called a pumping jack.

Jack board

A device used to support the end of a length of pipe while another length is being screwed on.

Jacket

The steel lattice structure that supports an offshore platform.

Jack lines

The pull-rod lines running from a central power unit to a pumping jack.

Jacket Platform

An offshore platform constructed entirely of steel. Such platforms generally are held in position by long steel piles driven deep into the seabed.

Jack-up Rig

A type of mobile offshore platform with retractable legs that stand on the seabed to help support the drilling platform.

Joint

A length of pipe-usually from 20 to 30 feet long.

Joint movement

The shipment of a tender of oil through the facilities of two or more pipeline companies.

Joint tariff

A rate sheet issued jointly by two or more companies setting forth charges for moving oil over the facilities of each.

Joint Venture

An investment undertaken by a consortium of companies, usually with one member acting as operator.

K-Resin

Branded copolymer resin used to produce clear packaging materials, cups, water bottles, toys and shower doors.

Kerosene

A medium-light distillate from the oil refining process; used for lighting and heating, and for the manufacture of fuel for jet and turbo-prop aircraft engines.

Kill a well

To overcome pressure in a well by use of mud or water so that surface connections may be removed.

Knock-Off block or post

The post and hook that are used to hang off a well operated through a rod line.

Knockout tank

A kind of tank or filter used to separate oil and water.

Knuckle buster

A wrench that is liable to slip.

Laboratory graduate

(See Graduate, laboratory.)

LACT Station

"Lease Automatic Custody Transfer" station; an automated system for measuring and transferring oil from a lease gathering system into a pipeline.

Lazy Board

(See Jack board.)

LDLPE

Low-density linear polyethylene. A strong, clear film ideal for packaging.

Lead terminal

The end of a pipeline nearest the front or head line, usually with tank farm or temporary terminal tankage.

Lease

The legal contract that specifies the terms and conditions of the business relationship between an oil company and the landowner or mineral rights holder on a particular tract.

Lease power

A central unit which provides the power to pump more than one well.

Lense-Type traps

A reservoir in which oil is confined within porous parts of the rock by the nonporous parts of the rock surrounding it.

License

An agreement in which a national government gives an oil company

the rights to explore for and produce oil and/or gas in a designated area.

License Block

A section of continental shelf area in a particular national sector bounded by latitude and longitude lines, generally at one-degree intervals; a license block is usually subdivided into smaller areas.

License Round

A stage in the allocation of offshore licenses in which a state places a number of specified areas in its sector on offer to oil companies at one time.

Light Crude

Crude oil with a high API gravity due to the presence of a high proportion of light hydrocarbon fractions.

Lightering

Unloading cargo from large marine tankers into smaller tankers that can enter shallow-water ports.

Lignite

Usually a dark brown substance that is the lowest rank of coal.

Line pressure

Pressure generated by station pumps and transmitted to the line for purpose of moving product. In general, it is highest when product first enters the line and gradually decreases as the product moves through the line.

Liquefied Natural Gas (LNG)

Natural gas liquefied either by refrigeration or by pressure to facilitate storage or transportation.

Liquefied Petroleum Gas (LPG)

A mixture of butane, propane and other light hydrocarbons derived from refining crude oil. At normal temperatures, it is a gas, but it can be cooled or subjected to pressure to facilitate storage and transportation.

Liquefied petroleum gas

This term is applied to certain products, principally butanes and propane, found in natural gas. These products would be in a gaseous form at normal atmospheric pressure and temperature. When stored in a tank, however, they are kept in a liquid form through the application of pressure, 70 pounds per square inch in the case of butanes and 210 pounds per square inch in the case of propane.

Liquids

An aggregate of crude oil and natural gas liquids; also known as hydrocarbon liquids.

Little big inch

Colloquial for 20-inch products line constructed by the United States Government from Texas to the Eastern Seaboard as a war emergency measure to counterbalance submarine sinking of tankers on the Gulf and Atlantic Coasts.

Live oil

Oil that contains gas.

LLDPE

Linear low-density polyethylene. A strong, clear film ideal for packaging and one of the fastest-growing plastics lines in the world.

Load binder

Chain or rope used to tie down loads of equipment, or the "boomer" used to tighten the chains.

Location

The place at which a well is to be or has been drilled.

Log book

Book used by station engineers and gaugers to keep notes of current operating conditions and other useful information.

Log sheet

Daily report sheet on which operating data are entered by gaugers, dispatchers, and station engineers.

Lower sample

A spot sample obtained at the level of the fixed tank outlet or the swing line outlet.

Low-vapor-pressure liquid

A liquid which, at the proving temperature of the meter, has an absolute vapor pressure less than existing atmospheric pressure.

Lubricant

Material, usually oils, greases, and solids such as graphite, used to decrease friction.

Magnesium anodes

A device made from magnesium which, when buried in the ground and connected to a pipeline by an external cable, leads to the creation of a galvanic cell. Cell action creates electricity which flows toward the pipeline from the magnesium anode.

Main line

A trunk pipeline.

Make a hand

To become a good worker.

Make it up another wrinkle

To make up a connection one more turn.

Male connection

A connection with the threads on the outside.

Manhole

A hole in the side of a tank through which a man can enter the tank, also the clean-out plate.

Manifold

An arrangement of piping and valves to provide interconnecting lengths between a number of pumps, tanks, and lines at a pump station.

Marginal Field

A field that may not produce enough net income to make it worth developing at a given time; should technical or economic conditions change, such a field may become commercial.

Marginal well

An oil or gas well the production of which is so limited in relation to production costs that profit approaches the vanishing point.

Master gate

A large valve used to shut in a well.

Master meter

A proved meter which serves as a prover, either portable or stationary, connected in series with the meter or meters to be proved.

MCF

An abbreviation for "thousand cubic feet."

MCF

The abbreviation for "thousand cubic feet," the standard measure for natural gas.

Measured Depth

The depth of the well measured along the wellbore. Also called logged or driller's depth.

Measurement reference conditions of

The temperature and pressure conditions to which the volume, as determined by the meter, is to be corrected. The temperature to which volume measurements are to be corrected is usually 60° F. The reference pressure is atmospheric pressure, the absolute vapor pressure of the liquid at 60° F, or a mutually agreed upon pressure.

Measuring chamber

The portion of a meter which contains the measuring element.

Measuring element

The portion of a meter which moves within the measuring chamber so as to divide the liquid into

segments as the liquid passes through the meter.

Meniscus

The curved surface at the end of a liquid column.

Mercaptans

Compounds of carbon, hydrogen and sulfur found in sour crude and gas; the lower mercaptans have a strong, repulsive odor and are used, among other things, to odorize natural gas.

Mercoïd switches

Pressure and temperature-control instruments used in automatic safety devices.

Metallocene Catalyst

Precision catalysts that provide extended manufacturing control over the molecular structure and properties of polyethylene. When used to manufacture linear low-density polyethylene (LLDPE), the result is a film of exceptional clarity and strength that is ideal for food packaging.

Metallocene Compounds

The key ingredients in the company's proprietary metallocene catalyst.

Meter accuracy

A number by which the meter registration is divided to obtain the actual volume of liquid passed through the meter. It is the reciprocal of the meter factor (see definition) when proving a meter, it is obtained by:

$$\begin{aligned} \text{Meter accuracy} &= \text{meter registration} / \text{quantity measured in prover} \\ &= 1 / \text{meter factor} \end{aligned}$$

and actual throughput is obtained by:

$$\text{Actual throughput} = \text{meter registration} / \text{meter accuracy}$$

Meter capacity

The maximum rate of flow through a meter, as recommended by the meter manufacturer, maximum for

any specific liquid.

Meter capacity, minimum

The minimum rate of flow through a meter, as recommended by the meter manufacturer, for any specific liquid.

Meter case

The outer portion of a meter which encloses the measuring chamber.

Meter characteristic

A term somewhat broader in scope than the term "meter performance"; the meter performance under varying operating conditions.

Meter cover

The portion of a meter case which must be removed to expose the measuring chamber and the measuring element.

Meter factor

A number obtained by dividing the actual quantity of liquid passed through a meter into a prover or master meter by the indicated meter registration during the proof. It is the reciprocal of meter accuracy (see definition). When proving a meter, it is obtained by:

Meter factor = (Quantity measured in Prover / meter registration) = 1 / meter accuracy
and actual throughput is obtained by:

Actual throughput (meter factor) = (meter registration)

Meter performance

An expression of the relationship between the quantity of a given liquid indicated by a meter register and the actual quantity of that liquid which passed through the meter for the corresponding period.

Meter, positive displacement

Device installed in a piping system in which flowing liquid is constantly and mechanically isolated into segments of known volume. These segments of liquid are counted as they are displaced and their accumulated total continuously and instantaneously indicated in units of liquid quantity by the meter register. These fixed quantity liquid segments are united as they emerge from the measuring element along with that portion of liquid which slips through the clearances between the moving parts of the measuring element. Positive displacement meters are generally differentiated by the type of mechanism employed to isolate the liquid segments; i.e., by the nature of their measuring element. The terms used to describe the most common types of measuring elements are:

(1) rotating disc; (2) reciprocating piston; (3) oscillating piston; (4) vane-type rotary, (5) bucket-type rotary, (6) lobed rotary; (7) helical rotary and (8) certain combinations of these.

Meter reading

The number of units of volume, or equivalent thereof, read directly from a meter register at any particular moment.

Meter register

A device which indicates the quantity passed through a meter. The register may be electronic, mechanical, multi meter totalizer, remote reading remote ticket printing, and at location ticket printing. The register may have a direct drive, electronic drive, friction drive, or a magnetic drive.

Meter registration

The difference between opening and closing meter readings during an interval of operation of a meter.

Meter slippage

The volume of the liquid, at any flow rate, which passes through a meter without causing registration.

Methane

The principal constituent of natural gas.

Methyl Mercaptan

A sulfur-based chemical used primarily to produce methionine (a food supplement for poultry) and agricultural chemicals.

Methyl Tertiary Butyl Ether (MTBE)

A lead-free, anti-knock additive for gasolines.

Microwave

Ultra-short wave radio communications system. The signal waves in this system are focused to travel on line-of-sight between sending and receiving equipment. All radio waves travel in straight paths. Some are reflected back to earth permitting communication between points not accessible by line of sight because of the curvature of the earth.

Middle sample

A spot sample obtained from the middle of the tank contents.

Middle spot sample

On tanks larger than 1,000-barrel capacity containing 10 feet or less of crude oil, one spot sample should be taken as near the center of the vertical column of oil as possible.

Mid-point gravity

The point in the commingling spread where the specific gravity is midway, or an average of the specific gravities of the two products concerned.

Minimum batch

A minimum number of barrels the pipeline will ship in one batch.

Miscible flood

An oil-recovery process which involves the injection of a solvent followed by a displacing fluid.

Mixed sample

One obtained after mixing or vigorously stirring the contents of the original container, and then pouring out or drawing off the quantity desired.

MMBTU

A million British Thermal Units (Literally, a thousand thousand BTU's)

MMCFD

Million cubic feet per day.

Monomer

A simple molecular unit (such as ethylene or styrene) from which a polymer can be made.

Motor Oil

Refined lubricating oil, usually containing additives; used as a lubricant in internal combustion engines.

Mule head

A horse head, the curved device on the oil well end of a walking beam.

Multiple completion

A well completion which provides for simultaneous production from separate zones.

Multiple tank composite sample (ships, barges, etc.)

A mixture of individual all-levels samples from the several compartments each of which contains the same grade of petroleum material. The mixture is blended in proportion to the volume of material in each compartment.

Naphtha

A colorless liquid product of petroleum distillation that is used as a manufacturing solvent, a dry-cleaning fluid and a gasoline-blending stock.

National Petroleum Reserve-Alaska

A petroleum province west of the Prudhoe Bay Field and south of Point Barrow on the North Slope of Alaska, consisting of millions of acres set aside and held in reserve for the purpose of national defense. A portion of the reserve is open to drilling.

Natural Gas

A mixture of light hydrocarbons found naturally in the Earth's crust, often in association with oil (when it is known as associated gas). Methane is the most dominant component.

Natural Gas Liquids (NGL)

A mixed stream of ethane, propane, butane and pentanes that is split into individual components. These components are either sold or used as feedstocks for refineries and chemical plants.

Octane number

A numerical indicator of the relative antiknock value of automotive gasoline and of aviation gasolines having ratings below 100. The number is determined by comparing the gasolines performance with the performance of iso-octane gasoline. Higher rated aviation gasolines usually are rated according to a different scale and are given a performance number.

Octane Number

A measure of the resistance of a fuel to pre-ignition ("knock") when burned in an internal combustion engine. The higher the number, the more anti-knock quality.

Odorant

A substance, such as a mercaptan, that is added to odorless natural gas and natural gas liquids; gives them a characteristic smell and thus enables them to be detected.

Off production

Said of a well when it is shut in or temporarily not able to produce.

Offset well

Well drilled near another one.

Oil

A mixture of liquid hydrocarbons of different molecular weights.

Oil-Country tubular goods

Oil well casing, tubing, or drill pipe. tubular goods.

Oil Field

A geographical area under which an oil reservoir lies.

Old hand

A man who has been around the oil field for a long time.

Olefins

Basic chemicals made from oil or natural gas liquids feedstocks; commonly used to manufacture plastics and gasoline. Examples are ethylene and propylene.

On stream

A term to signify that a pump or pump station is operating to move oil by pumping.

On suction

A term which indicates that a tank has been opened to the pump suction.

On the line

Said of a tank when it is being emptied into a pipeline.

On the pump

Said of a well that is being pumped.

OPEC

The Organization of Petroleum Exporting Countries, which are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

Operating Interest

The legal right to produce oil or gas from a well, accompanied by the responsibilities to pay production costs and assume the risks.

Operator

Term used to describe a company appointed by venture stakeholders to take primary responsibility for day-to-day operations for a specific plant or activity.

Orifice meter

The most frequently used meter in pipeline transmission. A disk with an opening smaller than the diameter of the pipeline is placed in the pipeline. Gas tends to "squirt" through the orifice in this disk, causing, for a short distance downstream, a slightly lowered pressure. The orifice meter measures the upstream pressure and the downstream pressure at the sides of the disk. The readings thus obtained are used to determine the amount of gas which has gone through the orifice in a given period of time.

Orthoxylene

An aromatic compound used in the manufacture of plasticizers and polyester.

Outage (ullage)

The difference between the full or rated capacity and the actual contents of a container. It is determined by measuring the distance

from a given point at the top of a container down to the surface of the liquid.

Outer Continental Shelf (OCS)

That portion of a continental land mass that constitutes the slope down to the ocean floor. The outer continental shelves are heavily sedimented, and it is believed they contain a large portion of the earth's undiscovered oil and gas.

Over and short station

A pump station where one or more tanks may be floating on the line. (See Floating Tank.)

Over-or-under delivery

(See Deliveries, over-or-under.)

Over-or-under registration

(See Registration, over-or-under.)

Overproduced

Said of a well that has produced more than its allowable.

Packing

Material used around pump shafts, valve stems, and similar places to seal and prevent the loss of pressure and liquid.

Paraxylene

An aromatic compound used to make polyester fibers and plastic soft drink bottles.

Pay Zone

The stratum of rock in which oil and/or gas is found.

PBC

Propane, butane, casinghead gasolines.

Peak-Day

Generally speaking, the term "peak-day" refers to a day of the year in which occurs the highest volume of sales.

Permeability

The ability of a porous medium to permit passage of fluids through interconnected pore spaces or voids.

Permeability

The capacity of a rock or stratum to allow water or other fluids, such as oil, to pass through it.

Persuader

A big tool for a small job, used to over-come some trouble.

Petrochemical

An intermediate chemical derived from petroleum, hydrocarbon liquids or natural gas: ethylene, propylene, benzene, toluene and xylene.

Petroleum

A generic name for hydrocarbons, including crude oil, natural gas liquids, natural gas and their products.

Petroleum

In its widest sense, all hydrocarbons-solid, liquid, and gaseous-occurring in nature; more precisely defined as a material,

occurring naturally in the earth, which is predominantly of hydrocarbons and usually relatively small proportions of sulfur, nitrogen, and oxygen derivatives of hydrocarbons.

Pig

A scraping tool forced through a flow line or pipeline to clean out wax or other deposits (see rabbit). Also sometimes called a go-devil.

Pig

A cylindrical device that is inserted into a pipeline to clean the pipeline wall or monitor the internal condition of the pipeline. Also called a go-devil.

Pig iron

What a large heavy piece of equipment is said to be made of.

Pilings

Long steel piles driven into the seabed to anchor fixed offshore structures solidly in place.

Pipe coupler

An alignment tool used to hold the ends of two joints of pipe in place during welding.

Pipehead

The supply point at which petroleum products are taken from a pipeline for storage distribution or for forwarding by another means of transportation.

Pipeline

A pipe through which natural gas, crude oil or petroleum products are pumped between two points,

either onshore or offshore.

Pipeline oil

Crude oil whose BS&W and water content is low enough to make the oil acceptable for pipeline shipment.

Pipe locator

Device used for locating underground pipe, employing the same principle as mine detector.

Pipe manifold

A long cylindrical fitting into which a number of pipes are connected to avoid the use of tees when pipes are to be connected closely.

Pipe saw

A motor-driven, chain-operated saw attached to pipe by roller link bands. The entire machine moves around the circumference of the pipe, cutting the pipe wall with a band saw blade.

Plastic

A generic term for a range of high-molecular-weight polymers that can be used to produce a variety of items.

Plastic Resins

A class of petroleum-based materials that can be molded to form plastic items or used as the basis of adhesives.

Plateau Level

The level of peak production reached by an oil or gas field; it is always followed by declining level of production.

Platform

An offshore structure from which development wells are drilled; see drilling installation, production installation.

Plugging

The process whereby a well is filled with concrete and abandoned. Often referred to as "p&a" -- plugged and abandoned.

Plug valve

A valve whose line-closing element is a revolving plug which permits passage of a fluid when lined up with the pipe, normally

used in the construction of tank-farm manifolds; three - and four-way operation may be obtained from multi-port designs.

Plunger lift

A method of lifting oil using a swab or free piston propelled by compressed gas from the lower end of the tubing string to the surface.

POL

A broad term which includes all petroleum products used by the Armed Forces. Originally, an abbreviation for petrol, oil, and lubricants.

Polymer

A complex compound formed by the polymerization of one or more monomers.

Polyethylene

Plastic made from ethylene; used in manufacturing trash bags, milk jugs, shampoo bottles, water coolers and cable coating, among other things.

Polyphenylene Sulfide

An engineering plastic with excellent resistance to most chemicals. See Ryton.

Polypropylene

Basic plastic formed by joining propylene molecules together. Used in the manufacture of synthetic fibers, automotive parts, luggage, safety helmets and home construction.

Pool

The oil accumulation from which a well or group of wells produce.

Porosity

The percentage by volume of void space within a formation.

Positive displacement meter

(See Meter, positive displacement.)

Potential test

A test of the rate at which a well can produce oil.

Power tools

Equipment operated hydraulically or by compressed air for making up and breaking out drill pipe, casing, tubing, and rods.

PPM

The abbreviation for "parts per million," the scale on which impurities and contaminants in oils, gases and petrochemicals are measured.

Pressure base

A given amount of gas (or air) will vary in volume according to the pressure which is exerted upon it. Pressure base refers to an agreed-upon pressure to be used to obtain uniform figures. Most of El Paso Natural Gas Company's sales contracts use a pressure base of 14.9 pounds per square inch. Another pressure base is 14.73 pounds per square inch. A given volume of gas occupies a larger cubic space at 14.73 pounds than it does at 14.9 pounds. There are a number of commonly used pressure bases throughout the industry. In arriving at a price for the sale or purchase of gas, the gathering of statistics on industry wide activities, or in any other undertaking where data must be obtained from several sources it is essential that the pressure be agreed upon so that all parties are talking about the same amount of gas.

Pressure gage

Device used to measure pressure, usually in pounds per square inch, in a pipeline, pump case, or container.

Pressure head

The pressure due to a column of fluid. The pressure is indicated in pounds at a given point of the column and may be converted into height in feet. The formula $P = H \times S / 2.31$ can be used to determine the pressure.

P = pressure in pounds per square inch

H = head in feet of fluid

S = specific gravity of the fluid

2.31 = conversion constant

Pressure loss

The differential pressure in the flowing liquid stream (which will vary with flow rate) between the inlet and outlet of a meter, as determined from tests made in accordance with Instruments and Apparatus, Part 2, Pressure Measurement, supplement to ASME Power Text Codes.

Pressure regulator

A valve which controls pressure in a line, downstream from the valve.

Processing Plant

A facility designed to separate substances or make new substances through chemical reactions, procedures or physical actions.

Produced Water

Brines that flow or are lifted to the surface with oil.

Product

Refined crude oil, generally restricted to fuels and gasolines and excluding lubricating oils.

Product color

In pipeline operations, the color artificially imparted to the product or the natural color of the refined product, either of which becomes a basis for testing or identification.

Product Yield

The percentages of gasoline, jet fuel, kerosene, gas oil, distillates, residual fuel oil, lubricating oil and solid products that a refinery can produce from a single barrel of crude oil.

Production Drilling

Drilling of wells in order to bring a field into production.

Production Installation

An installation from which development wells are drilled and that carries all the associated processing plants and other equipment needed to maintain a field in production.

Production License

A document issued by the governing state granting an oil company authority to produce oil and natural gas in a designated geographic area.

Production Phase

The productive life of an oil or gas field.

Production Platform

A platform from which development wells are drilled and that carries all the associated processing plants and other equipment needed to maintain a field in production.

Production String

The tubing or piping in a production well through which oil or gas flows from the reservoir to the wellhead.

Production Well

A well used to remove oil or gas from a reservoir.

Productivity test

A test of a wells capacity to produce, usually conducted at different pumping rates or rates of flow. (See Potential Test.)

Products cycle

The sequence or order on which a number of different products are batched through a pipeline.

Products line

A pipeline used for the shipment of refined products.

Products pipeline system

A pipeline with pumping stations, delivery pipeline terminals, tankage and other apparatus used for the transportation of products opposed to crude oil.

Propane

A heavy gaseous hydrocarbon found in crude oil and natural gas; used as fuel and in the making of petrochemicals.

Propylene

A raw material in the chemical, plastics and fibers industries. Major component of the plastic polypropylene.

Proration

A system enforced by the state or by agreement between operators which limits the amount of oil which can be produced from a particular well or field within a given period.

Prove

To determine the meter performance or the relationship between the volume of liquid which actually passes through a meter and the volume indicated by the meter.

Proven acreage

Land under which it is known that gas or oil exists in quantity and condition sufficient to support commercial production.

Proven Field

An oil and/or gas field whose physical extent and estimated reserves have been determined.

Proven Reserves

Estimated quantities of hydrocarbons that geological and engineering data demonstrate will be recoverable from known oil and natural gas reservoirs under existing economic and operating conditions.

Prover, gravimetric meter

A closed or open vessel mounted on a weigh scale to permit accurate determination of the weight of a quantity of liquid which has been previously measured in volumetric units by a meter. The weight of liquid is then converted, by use of the average specific gravity, to volumetric units to compare with the volume measured by the meter.

Prover, volumetric meter

A closed or open vessel designed especially for accurate determination of the quantity of a liquid delivered into or out of it during a meter proof run. The quantity of liquid either is observed from the liquid level or is known from previous calibration of a fixed-volume vessel.

Proving tank

A device used to calibrate meters used in metering oil.

PSI

Pounds per square inch.

Pump, centrifugal

A pump whose propulsive effort is effectuated by a rapidly turning impeller.

Pumper

Production employee directly responsible for obtaining accurate records of the amount of oil sold to transportation or pipeline company. He produces the well, minimizes waste, and sometimes treats the oil.

Pump off

To pump so rapidly that the oil level drops below the standing valve on the pump.

Pump, positive displacement

Rotary pumps move fluids by positive displacement, using a system of rotating vanes, gears, or lobes.

Pump, reciprocating

A pump whose propulsive effort is effectuated by reciprocating motion of pistons or plungers operating in cylinders.

Pump Stations

Facilities placed along the route of a pipeline to keep oil or gas moving along with pressure or suction.

Pumps in parallel

An arrangement whereby equal capacity pumps contribute approximately equal shares toward total output, at a pressure equal to that created by one pump, allows handling of large volumes of fluid at low pressure.

Pumps in series

An arrangement whereby liquid passes from the discharge of one pump to suction of another, each pump contributing an individual increment toward total pressure. Output volume is that of one pump, while pressure is the sum of the pressures developed by each individual pump.

Pump (or pumping station)

A pumping plant stationed at necessary intervals along the course of a pipeline for the purpose of forcing the product through the lines.

Pup

A short length of pipe.

Purification

The elimination of impurities, particularly hydrogen sulfide and carbon dioxide, from natural gas.

Put a well on

To start a well flowing or pumping.

Put on pump

To install a pump jack or pumping unit, sucker rods, and bottom-hole pump.

Quantity predetermining device

A mechanical apparatus by means of which a desired quantity of liquid to be measured can be preset on a meter register, it is

operated in such a manner that when this desired quantity has been discharged through the meter, the device automatically stops the flow through the meter.

Rabbit

A small plug that is run through a flow line by pressure to clean the line or test for obstructions.

Rack

A facility for loading or unloading tank cars or tank trucks.

Rate of flow

The volume of product per unit time passing a fixed point in the pipeline, usually expressed in barrels per hour or gallons per minute.

Reactor

A vessel, tank or tower in which a specific chemical reaction takes place.

Reciprocating pump

A pump that relies upon the action of a piston or plunger moving within a cylinder for positive displacement of a given volume of liquid on each discharge stroke.

Reciprocating station

A compressor station in which gas is compressed by compressors which pump back and forth within a chamber, operating on the same principle as a tire pump. At El Paso Natural Gas Company such compressors are powered by reciprocating engines in which power is supplied by pistons which move back and forth within their cylinders.

Reclamation

The procedure required to restore or to change the quality of contaminated petroleum products to meet desired specifications, usually by downgrading, blending, filtering, dehydrating, and, or inhibiting.

Recoverable Reserves

That proportion of the oil and/or gas in a reservoir that can be removed using currently available techniques.

Rectifier

A device used in cathodic protection of pipelines to convert alternating current to direct current.

Recycling

The process undertaken to regain material for human use. To reuse; to make ready for reuse.

Reducing, throttling, or diaphragm control valves

Valves used to control pressure or rate of flow in a pipeline. They can be hand or air-operated through a diaphragm.

Reference measurement conditions

The temperature and pressure conditions to which the volume as determined by the meter is corrected. The temperature to which volume measurements are to be corrected is usually 60° F. The reference pressure is atmospheric pressure, the absolute vapor pressure of the liquid at 60°F, or a mutually agreed upon pressure.

Refinery

A plant used to separate the various components present in crude oil and convert them into usable fuel products or feedstock for other processes.

Refining Margins

The difference in value between the products produced by a refinery and the value of the crude oil used to produce them. Refining margins will thus vary from refinery to refinery and depend on the price and characteristics of the crude used.

Reformulated Gasoline

Reformulated gasoline is a cleaner-burning gasoline that reduces smog and other air pollution. Federal law mandates the sale of reformulated gasoline in metropolitan areas with the worst ozone smog. Some other cities voluntarily require reformulated gasoline.

Register

A device which indicates the quantity passed through a meter.

Register drive direct

A positive direct mechanical drive, such as shafts or gears, which connects a meter and a meter register.

Register drive, electric

An electric mechanism which connects a meter and a meter register. This may be of the selsyn, pulse, or another type.

Register drive, friction

A dry-face clutch or similar type of frictional mechanism which connects a friction meter and a meter register.

Register drive, magnetic

A magnetic clutch mechanism which connects a meter and a meter register.

Register, electronic

A meter register operated by electronic means rather than by mechanical means.

Register, mechanical

A meter register operated by mechanical components such as shafts and gears.

Register, multimeter totalizer

A meter register which indicates the total registration of two or more meters.

Register, remote reading

A meter register which is located at a point distant from the meter.

Register, remote ticket-printing

A ticket-printing register which is located at a point distant from the meter.

Register, round reading

A register, the face of which is usually circular and on which the registration is indicated by a series of pointers driven through a spur gear system.

Register, straight reading

A register, the face of which is a series of numbers appearing in line on parallel wheels driven by a system of pawls.

Register, ticket-printing

An auxiliary device which, when operated, prints the meter registration on paper inserted therein.

Register, ticket-printing identifying

A device similar to a register, ticket-printing. In which a symbol or symbols are installed to record on the ticket pertinent information such as location, meter number, or batch number.

Registration, over-or-under

The volume obtained by subtracting the quantity measured in the prover from the meter registration and expressing the difference in units such as cubic inches per test measure, cubic inches per gallon, or cubic inches per barrel. Over-registration will be indicated if the algebraic result has a plus sign; under-registration will be indicated if it has a minus sign.

Reid Vapor Pressure (RVP)

The vapor pressure of a liquid at 100° F as determined by the standard Reid Vapor Pressure test (ASTM Designation D 323-58).

Relief valve

A valve that will open automatically when pressure gets too high.

Reserves

The quantities of gas and/or oil which are known to exist.

Reservoir

Each separate unconnected body of producing formation.

Reservoir

A porous, permeable sedimentary rock formation containing oil and/or natural gas enclosed or surrounded by layers of less permeable or impervious rock.

Reservoir Characterization

The continuing process of integrating and interpreting geological, geophysical, petrophysical, fluid and performance data to form a unified, consistent description of a reservoir.

Residual Fuel Oil

Very heavy fuel oils produced from the residue from the fractional distillation process rather than from the distilled fractions.

Residue Gas

The gas that remains after natural gas is processed and the liquids removed.

Residue gas

Casinghead gas, produced in conjunction with the production of oil, is gathered to a central point, processed for the removal of liquid hydrocarbons, and then becomes known as residue gas.

Resin

A solid or semi-solid mixture of organic substances of complex composition having no definite melting point, as in plastic resins made from hydrocarbon feedstocks.

ReVAP

Reduced Volatility Alkylation Process. An environmental innovation that cuts by 60 percent to 90 percent the airborne hydrogen fluoride (HF) emissions in the event of an accidental release. ConocoPhillips and Mobil jointly developed the process in 1994.

Reworking a Well

Restoring a well's productivity by cleaning out accumulations of sand, silt or other substances that clog the production tubing.

Rig

A structure that contains all the necessary equipment for drilling.

Right-of-way

The strip of land, usually 50 feet wide, that is the route of a pipeline and for which the company pays for the legal right of passage.

Right-of-way

A strip of land usually from 50 to 80 feet wide on which permission has been granted by land owners for the construction of a pipeline.

Riser

A pipe through which liquid travels upward.

Rock a well

To bleed pressure from casing of a dead well, then from tubing, then from casing, and so on so that the well will start to flow.

Roustabout

A production field worker. His duties include assemble flow lines, tank batteries and treating equipment, help in well servicing operations, and do general lease maintenance work.

Royalty

A share of the revenue from the sale of oil, gas or other natural resources paid to a landowner or grantor of a lease or license.

Royalty Oil

The landowner's share of net oil production, taken in the form of crude oil rather than in cash.

Run a tank

To empty oil from a tank into a pipeline.

Running sample

One obtained by lowering an un-stoppered beaker or bottle from the top of the oil to the level of the bottom of the outlet connection or swing line, and returning it to the top of the oil at a uniform rate of speed such that the beaker or bottle is about three-fourths full when withdrawn from the oil.

Running start-and-stop method

A meter-proving method wherein the opening and closing meter readings of the test run are determined at flowing conditions.

Saddle bearing

A bearing between the walking beam and the sampson post of a pump jack or pumping unit.

Sample

A relatively small quantity of the product taken for prescribed tests and or for evidence of the quality of the whole.

Sample tap

A point in the pipeline, usually at a station or terminal, from which a sample may be drawn.

Sanded up

Clogged by sand entering the well bore with the oil.

Satellite Oil Fields

Oil fields adjacent to larger existing fields.

Satellite Platform

An offshore structure that depends on another platform for materials or services.

Scheduler

The person who plans in advance the operational activities of the system to meet requirements most efficiently.

Scraper

A device used to clean deposits of paraffin from tubing or flow lines (see pig or rabbit).

Scraper trap

Special piping arranged to launch or receive a pipeline scraper.

Scraping and priming machine

Motor-driven machine which scrapes dirt, rust, and mill scale from the external surface of pipe and applies a primer to the cleaned area. The machine is mounted on the pipe and moves along under its own force as the pipe is held above the ground surface by means of a side boom tractor.

Seal, capillary

The liquid seal which reduces slippage between moving parts of a meter.

Seal, mechanical

The seal (packing) which reduces slippage between moving parts of a meter.

Secondary Recovery

Enhanced recovery of oil or gas from a reservoir beyond the oil or gas that can be recovered by normal flowing and pumping operations. Secondary recovery techniques involve maintaining or enhancing reservoir pressure by injecting water, gas or other substances into the formation. See also enhanced recovery and tertiary recovery.

Seismic Exploration

An exploration technique involving the use of seismic methods.

Seismic Survey

A technique for determining the detailed structure of the rocks underlying a particular area by passing acoustic shock waves into the strata and detecting and measuring the reflected signals.

Semi-submersible Rig

A floating drilling installation that is supported by underwater pontoons; generally used for exploration purposes only.

Service Well

A well that does not produce oil or gas but that is used to inject liquids or gas into the main producing formation for such purposes as pressure maintenance, enhanced recovery, and storage or subsurface disposal of salt water and other substances.

Settled production

A loose term used to describe old fields that produce at nearly the same rate from day to day.

Settling tank

A vessel installed upstream from a meter, wherein the velocity of the stream is reduced sufficiently to permit foreign matter and water to settle out of the flowing stream.

Shackle line

A pull-rod line.

Shake out

To spin a sample of oil at high speed to determine its BS&W content.

Sharpshooter

A long narrow shovel used in ditch digging.

Sheave

A grooved pulley.

Shepard's cones

An earth resistivity meter used to measure the resistance of soil to the passage of electrical current.

Shut in

To close valves on a well so that it stops producing, said of a well on which the valves are closed.

Shut in pressure

Pressure at the top of a well when it is shut in.

Side irons

The housing and supports for the bearings of a walking beam.

Sidetrack Drilling

A remedial operation that results in the creation of a new section of well bore for the purpose of detouring around "junk,"
redrilling a lost hole or straightening crooked holes.

Single tank composite sample

Used in sampling petroleum products and is a blend of the upper, middle, and lower samples. For a tank of uniform cross section, such as an upright cylindrical tank, the blend consists of equal parts of the three samples.

Slack off

To lower a load or ease up on a line.

Sling

A wire-rope loop for use in lifting heavy equipment.

Slippage

(See meter slippage.)

Slips

Wedge-shaped toothed pieces of metal that fit inside a bowl and are used to support tubing or other pipe.

Slug

A buffer inserted between two batches in the pipeline to avoid mixing the two.

Slurry

Fine solids suspended in a fluid (usually water). The suspension is desired in pipeline transporting of solids.

Snake out

To pull out.

Snatch block

A block that can be opened up for putting a line over the roller or sheave.

Soft rope

A small loose fiber rope.

Source station

A pump station at a pipeline junction by means of which oil is pumped from a main line into a branch or lateral.

Sour Crude

Crude oil with a high sulfur content.

Sour crude oil

Oil containing hydrogen sulfide or other sulfur compounds.

Sour Gas

Natural or associated gas with a high sulfur content.

Sour gas

Gas that smells bad because of impurities, usually hydrogen sulfide.

Spacing

Distance between wells producing from the same pool (usually expressed in terms of acres e.g., 10-acre spacing).

Spaghetti

Very small tubing or pipe.

Specialty Chemical

A chemical made in a relatively small quantity for a particular application.

Specific Gravity

A measure of the density of a material usually obtained by comparing it with water.

Specific gravity

The ratio of the weight of a given volume of liquid hydrocarbon to the weight of the same volume of distilled water, both liquids being at a temperature of 60° F and both weights being corrected for the buoyancy of air.

Spot Market

The trading in crude oil and petroleum products that occurs in international commerce, setting the prices that are widely published. Most crude moves from producer to refiner under long-term contracts, so only a small fraction of the world's petroleum is priced and traded on the spot market.

Spot sample

One obtained at some specific location in the tank by means of a thief, bottle, or beaker.

Spread

A group organized to handle all phases of pipeline construction. Within a spread are various crews, such as stringing crew, trenching crew, lineup crew, welding crew, wrapping crew, and others.

Spud

To start the actual drilling of a well.

Squealer

A noise maker attached to the end of an exhaust pipe.

Stab

To guide the end of a pipe into a coupling when making up a connection.

Stabilized

A well is considered "stabilized" when, in the case of a flowing well, the rate of production through a given size of choke remains constant, or, in the case of a pumping well, when the fluid column within the well remains constant in height.

Standard conditions

Pressure at sea level equals 14.696 psia (760 mm Hg), temperature equals 60° F.

Standing start-and-stop method

A meter-proving method wherein the opening and closing meter readings of the test run are determined at no-flow conditions.

Strainer

A device installed upstream from a meter and equipped with screen wire or another medium intended to remove foreign matter from the stream.

Strapping

Measurement and calculation to determine the capacity of a tank and to provide tables for conversion of feet and inches of depth of liquid to barrels.

Stringer bead

The foundation metal placed by a welder in making a pipeline weld. It is followed by two or more additional beads or passes to complete the weld.

Strip

To divert a portion of the main flow to another pipe or to a tank.

Strip a well

To pull rods and tubing from a well at the same time. Tubing must be "stripped" over the rods a joint at

a time.

Stripper

A well which produces a very small amount of oil, usually in an oil field.

Stripper well

A well in a semi-depleted field usually capable of very limited production.

Stripper Well

An oil well that produces a limited amount of oil, usually no more than 10 barrels a day.

Strung up

To have rigged up wire rope and sheaves or blocks for hoisting.

Subsalt

Refers to rock formations lying beneath long, horizontal layers of salt. These rock formations may contain hydrocarbons.

Sub-sea Wellhead

A wellhead installed on the sea floor and controlled remotely from a platform, a floating production facility or land.

Subsidence

The settling or sinking of a surface as a result of the loss of support from underlying soils or strata.

Substructure

The support form of an offshore installation on which the derrick, engines, quarters, helicopter pad, cranes, etc., are installed.

Suction pressure

The pressure of gas as it enters a compressor station.

Supply Chain Management

The interlocking series of transactions necessary to convert crude oil into marketable products.

Suspended Discovery

An oil or gas field identified by a discovery well, but not being produced or developed.

Swab

A device that fits the inside of tubing closely that is pulled through the tubing to lift fluid from it, or to pull such a device through the tubing.

Swamper

A helper on a truck.

Sweet

Said of oil or gas when it contains no sour impurities.

Sweet Crude

Crude oil with a low sulfur content.

Sweet crude oil

Oil containing little or no sulfur, especially in the form of hydrogen sulfide.

Sweet gas

Natural gas which does not contain sulphur.

Sweet Gas

A natural gas that contains little sulfur.

Syncrude

Synthetic crude oil derived by upgrading bitumen extractions from mine deposits of oil sands.

Syngas

A synthetic gas fuel.

Synthetic Fuels

Burnable energy fluids made from coals or other hydrocarbon-containing substances.

Synthetic Natural Gas

Gases made from coals and other hydrocarbon-containing substances.

Synthetic Oils

Liquid fuels made from hydrocarbon- containing substances, including tar sands, plus animal and vegetable oils that are used as lubricants.

Tail chain

A short length of chain attached to the end of a winch line.

Tail Gas

A sulfur recovery unit's residue gas; any processing unit's gaseous exhaust that is treated as residue.

Tail out

To pull the bottom end of a sucker rod rods away from a well when laying rods down.

Take a strain on

To begin to pull on a load.

Tally

To measure and record length of pipe or tubing.

Tank battery

A group of tanks to which crude oil flows from producing oil wells.

Tanker

(See Tank-Ship.)

Tank farm

One or more tanks connected to a pipeline and a pump station by means of which oil is unloaded in tanks or withdrawn from them.

Tank Farm

A number of petroleum tanks that are operated together as a depot in oil storage and distribution activities.

Tank-Ship

A seagoing vessel whose cargo space consists of a number of tanks and which is used for shipment of liquid cargo. Recently built vessels have capacities as high as 300,000 barrels and a speed of 18 knots.

Tank strapper

The person who measures a tank to see how much it will hold at various levels.

Tap

A notched tool used to cut inside threads.

TAPS

Abbreviation for Trans-Alaska Pipeline System, the line from Prudhoe Bay on the North Slope to the terminal port of Valdez on the south coast of Alaska

Tariff

A rate sheet of charges made by pipeline companies for moving oil.

Temperature compensator

A mechanism which, in response to temperature changes in the flowing stream, automatically changes the meter registration in accordance with the coefficient of thermal expansion for which the device was designed.

Tender

A shipment of oil presented by a shipper to a pipeline for movement.

Tension-leg Platform

A floating offshore structure held in position by a number of tension-maintaining cables anchored to the seabed. The cables dampen wave action to keep the platform stationary.

Terminal

Plant and equipment designed to receive and process crude oil or gas to remove water and impurities.

Terminal

A point to which oil is transported through pipelines. It usually includes a tank farm and may include tanker loading facilities.

Tertiary Recovery

The third major phase of recovery of oil or gas, the quantities recovered being over and beyond what could be produced by primary and secondary recovery technology; generally involves using sophisticated techniques such as heating the reservoir to reduce the viscosity of the oil.

Test measures

Vessels designed especially for the precision measurement of volume of liquid in (or near) 1-, 5-, 10-gallon or larger quantities and usually certified for accuracy of measurement by the National Bureau of Standards.

Test run

A single complete test required to prove a meter.

Therm

As used in the gas industry, this is a unit of heat equal to 100,000 British Thermal Units.

Thief

A device which is lowered into a tank to take an oil sample at any desired depth, used to determine the BS&W content of oil in a tank.

Three-dimensional Seismic

Commonly shortened to 3-D seismic. Three-dimensional images created by bouncing sound waves off underground rock formations; used by oil companies to determine the best places to drill for hydrocarbons.

Throughput

The average amount of raw material that is processed in a given period by a facility, such as a natural gas processing plant, an oil refinery or a petrochemical plant.

Throughput, gross

The indicated throughput corrected only for meter performance.

Throughput, indicated (uncorrected)

The difference between the opening meter reading and the closing meter reading.

Throughput, net

The gross throughput corrected to 60° F and the reference pressure, and including a correction for basic sediment and water where applicable.

Tie-Down

A device to which a guy wire or brace may be attached.

Tight line

A pipeline with no in-transit storage facilities.

Tin hat

The metal hat worn by oil field workers to protect them from falling objects.

Top sample

A spot sample obtained 6 inches below the top surface of the liquid.

Toluene

A key petrochemical and an organic solvent; along with xylene, a key component in unleaded gasoline.

Ton

2,000 pounds in the United States; in the United Kingdom, a long ton is 2,240 pounds; a metric ton equals 1,000 kilograms. In most countries, oil and petroleum products are sold by weight instead of liquids quantities, e.g., a ton of oil is the equivalent of 6.8 to 8.5 barrels of oil, depending on temperature, specific gravity and other physical factors.

Total Depth (TD)

Descriptive of a well reaching the intended depth.

Tour

(Almost always pronounced "tower" in the gas industry.) Hours of work, Thus, when a man is "on tour" he is on duty.

Train

A series of units that together accomplish a complex process.

Transmix

Mixture of two products as a result of being transported next to each other in the pipeline. The interface.

Trip

To pull or run a string of rods or tubing from or into a well.

Trunk line

A main pipeline.

Tube or thief sample

One obtained with a sampling tube or special thief, either as a core sample or spot sample from a specified point in the container.

Tubing

The piping installed in wells for the production of oil and gas.

Tubing job

The pulling and running of tubing.

Turbine

A piece of equipment in which a shaft is steadily rotated by the impact of a current of steam, air, water or other fluid directed

from jets or nozzles upon blades of a wheel.

Turbine station

A compressor station in which the power is supplied by a gas turbine. Such turbines provide force in a spinning motion rather than from the pumping motion of a reciprocating engine.

Turnaround

A period of brisk activity at a refinery or plant when processing units, or portions of them, are shut down for scheduled maintenance or the installation of new equipment and systems.

Ullage

Outage in a tank.

Unassociated Gas

Natural gas found in reservoirs that do not contain crude oil.

Unconformities

A type of reservoir formed as a result of unconformities in the soil and rock strata.

Unitization

When owners of oil and/or gas reserves pool their individual interests in return for an interest in the overall unit, which is then operated by a single company on behalf of the group, thus increasing efficiency and profitability.

Upper

A spot sample taken at the midpoint of the upper third of the tank contents.

Upstream

Oil and natural gas exploration and production activities; plus gas gathering, processing and marketing operations.

Vacuum breaker

An automatic means for preventing a partial vacuum from being formed at a specific point in a piping system.

Valve, back pressure

A mechanical device for maintaining a uniform upstream pressure.

Valve, differential

A mechanical device for maintaining a fixed difference in pressure between two points in a metered stream.

Vapor

(See Air eliminator (separator)).

Vapor equalizing line

A conduit installed to connect the vapor spaces of the vessel being filled and the one being emptied.

Vapor pressure (absolute)

The pressure of a vapor corresponding to a given temperature at which the liquid and vapor are in equilibrium.

Vapor pressure, reid

The vapor pressure of a liquid at 100° F, as determined by the standard Reid vapor pressure test.

Viscosity

A measure of the thickness of an oil, or how easily it will pour.

Viscosity

A measure of the resistance that a fluid makes to motion or flow; it usually decreases as the temperature increases.

Volume, standard unit of

The United States gallon, containing 231 U.S. cubic inches. One U.S. barrel contains 42 U.S. gallons. The British imperial gallon contains 277,420 British cubic inches or 277,418 U.S. cubic inches or 1.200955 U.S. gallons. The U.S. barrel contains 34.9722 imperial gallons.

Walking beam

The steel beam portion of a production pumping unit which connects the prime mover to the well pump.

Warm up

The same as heat-loosen a connection by hammering on it.

Water and sediment sample

One obtained with a thief to determine the amount of non merchantable material at the bottom of the tank.

Water Injection

Method of enhanced recovery in which water is injected into an oil reservoir to increase pressure and maintain or improve oil production.

Waterflooding

One method of secondary recovery in which water is injected into an oil reservoir to force additional oil out of the reservoir rock and into the well bore of producing wells.

Weigh tank

A vessel mounted upon a weigh scale in such a manner that any change in the weight of the liquid in the vessel is accurately reflected by the indicating mechanism of the weigh scale.

Welder

A welding machine supplying current for the use of the weldor. (See weldor.)

Weldor

An employee who welds. (Optional spelling is welder.)

Well

A hole bored or drilled into the earth for the purpose of obtaining water, oil or gas, or other natural resources.

Well Bore

The hole in the rock made by the drill bit.

Well Completion

The techniques of preparing a newly drilled well for production.

Well Jacket

A protective structure built around an offshore well to keep boats or floating debris from damaging the wellhead.

Wellhead

The control equipment fitted to the top of a well casing, incorporating outlets, valves, blowout preventers, etc.

Wet gas

Gas that carries a lot of liquids with it.

Wet Gas

Natural gas that contains large amounts of associated liquids.

Widow maker

Anything liable to cause death or serious injury of a workman.

Wiggle stick

The walking beam.

Wildcat

An exploration well drilled in "unproven territory," without direct evidence of the contents of the underlying rock structure.

Wildcat Appraisal Well

An appraisal well drilled with minimum preliminary information about the underlying structure and conditions; it usually follows a wildcat well that reported shows of oil or gas.

Wildcat well

An exploratory well drilled on unproven acreage.

Winch

A machine used for pulling or hoisting that does so by winding a cable around a spool.

Wind ring or wind girder

A horizontal stiffening structural member installed near the top of a floating roof tank to reinforce the tank wall against wind pressure.

Working Interest

The operating interest in an oil and gas lease.

Working pressure

The pressure to which a particular piece of equipment is subjected during normal operations.

Work over

To clean out or otherwise work on a well in order to increase or restore production.

Workover

The process whereby a completed production well is subsequently re-entered and any necessary cleaning, repair and maintenance work done.

Wrinkle pipe

To cut threads on a piece of pipe in order to make a connection.

Xylene

An aromatic hydrocarbon that is the basis for many petrochemicals; along with toluene, a key ingredient in unleaded gasoline.

Yield

The quantity of petroleum product derived from a process, based on the specific weights of raw materials.

Zone

An interval of a geological formation that contains one or more oil or gas reservoirs; a portion of a geological formation that has the porosity and permeability to form petroleum traps for oil and natural gas.

Zone of Cooperation

An area of the Timor Sea jointly administered by Australia and East Timor.