

Glossary of Oilfield Production Terminology (GOT)
(DEFINITIONS AND ABBREVIATIONS)

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FOR INFORMATION CONCERNING TECHNICAL CONTENTS OF THIS PUBLICATION
CONTACT THE API PRODUCTION DEPARTMENT, 2535 ONE MAIN PLACE, DALLAS,
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FOREWORD

A. This publication is under the jurisdiction of the API Executive Committee on Standardization of Oilfield Equipment and Materials.

B. The purpose of this publication is to provide standards writing groups access to previously used abbreviations and definitions. Standards writing groups are encouraged to adopt, when possible, the definitions found herein.

Attention Users of this Publication: Portions of this publication have been changed from the previous edition. The location of changes has been marked with a bar in the margin. In some cases the changes are significant, while in other cases the changes reflect minor editorial adjustments. The bar notations in the margins are provided as an aid to users to identify those parts of this publication that have been changed from the previous edition, but API makes no warranty as to the accuracy of such bar notations.

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This Glossary was adapted from several sources. It includes several terms for which there is no single, commonly accepted definition in the petroleum industry. Therefore, some firms within the industry may use definitions which vary somewhat from those contained herein.

1.1 The following API Publications were reviewed to compile the abbreviations and definitions found in Section 2 of this Bulletin.

1.2 List of Publications

Bul S1, Fourteenth Edition
Spec Q1, Second Edition
Spec 1B, Fifth Edition
RP 2A, Seventeenth Edition
Spec 2B, Third Edition
Spec 2C, Third Edition, with Supp 1
RP 2D, Second Edition
Spec 2E, First Edition, with Supp 1
Spec 2F, Fourth Edition
RP 2G, First Edition, with Supp 1
Spec 2H, Fourth Edition
RP 2I, First Edition
Bul 2J, First Edition
RP 2K, Second Edition
RP 2L, Third Edition
RP 2M, First Edition
Bul 2N, First Edition
RP 2P, Second Edition
RP 2Q, Second Edition
RP 2R, First Edition
RP 2T, First Edition
Bul 2U, First Edition
Bul 2V, First Edition
Spec 2W, First Edition
RP 2X, First Edition, with Supp 1
Spec 2Y, First Edition
RP 2Z, First Edition
Spec 3, Twelfth Edition
RP 3, First Edition
STD 4A, Sixteenth Edition, with Supp 1
STD 4D, Sixth Edition, with Supp 1
Spec 4E, Second Edition, with Supp 3
Spec 4F, First Edition
Spec 5A, Thirty-Ninth Edition
Spec 5AC, Sixteenth Edition
Spec 5AQ, Second Edition
Spec 5AX, Fifteenth Edition
Bul 5A2, Fifth Edition, with Supp 3
RP 5A5, Third Edition
STD 5B, Twelfth Edition
RP 5B1, Second Edition

RP 5C1, Fifteenth Edition
Bul 5C2, Twentieth Edition
Bul 5C3, Fourth Edition, with Supp 1
Bul 5C4, Second Edition
Spec 5L, Thirty-Sixth Edition
RP 5L1, Third Edition
RP 5L2, Third Edition
RP 5L3, Second Edition
RP 5L5, First Edition, with Supp 1
RP 5L6, First Edition
RP 5L7, First Edition
Bul 5T1, Eighth Edition
Spec 6A, Fifteenth Edition, with Supp 2
Spec 6AB, First Edition
Spec 6D, Eighteenth Edition, with Supp 3
Spec 6FA, First Edition
RP 6G, Third Edition
Spec 7, Thirty-Fifth Edition, with Supp 2
STD 7B-11C, Eighth Edition
RP 7C-11F, Fourth Edition
Spec 7F, Fourth Edition, with Supp 1
RP 7G, Twelfth Edition
RP 7H, Second Edition, with Supp 1
Spec 7J, First Edition, with Supp 1
Spec 8A, Eleventh Edition
RP 8B, Fourth Edition, with Supp 2
Spec 9A, Twenty-Third Edition
RP 9B, Ninth Edition
Spec 10, Third Edition, with Supp 1
Bul 10C, Third Edition
Spec 10D, Third Edition
RP 10E, Second Edition
RP11AR, Second Edition
Spec 11AX, Eighth Edition
Spec 11B, Twenty-Second Edition, with Supp 1
RP 11BR, Seventh Edition, with Supp 1
Spec 11C, First Edition
Spec 11E, Fourteenth Edition
RP 11ER, First Edition
RP 11G, Second Edition, with Supp 3
Bul 11K, First Edition
RP 11L, Third Edition, with Supp 1
Spec 11N, Second Edition
Spec 11P, First Edition, with Supp 2
RP 11R, Second Edition
RP 11S, Second Edition
RP 11S1, First Edition
RP 11T, First Edition

RP 11U, Second Edition
RP 500B, Third Edition
Spec 12B, Twelfth Edition, with Supp 2
Spec 12D, Ninth Edition, with Supp 2
Spec 12F, Ninth Edition
Spec 12J, Fifth Edition
Spec 12K, Fifth Edition
Spec 12L, Third Edition, with Supp 1
RP 12N, First Edition
Spec 12P, First Edition
RP 12R1, Third Edition
Spec 13A, Eleventh Edition, with Supp 1
RP 13B, Eleventh Edition, with Supp 1
Bul 13C, First Edition
Bul 13D, Second Edition
RP 13E, Second Edition
Bul 13F, First Edition
RP 13G, Second Edition
RP 13H, First Edition
RP 13I, Second Edition, with Supp 1
RP 13J, First Edition
Spec 14A, Sixth Edition, with Supp 2
RP 14B, Second Edition, with Supp 3
RP 14C, Fourth Edition
Spec 14D, Sixth Edition, with Supp 2
RP 14E, Fourth Edition
RP 14F, Second Edition
RP 14G, Second Edition
RP 14H, Second Edition
Spec 15AR, Third Edition
RP 15A4, First Edition
Spec 15LE, Second Edition
Sec 15LP, Sixth Edition
Spec 15LR, Fifth Edition, with Supp 1
RP 15L4, Second Edition
Spec 16A, First Edition
RP 17A, First Edition
RP 27, Third Edition
RP 31, Third Edition
RP 33, Third Edition
RP 34, First Edition
RP 35, First Edition
RP 36, First Edition
RP 37, Second Edition
RP 38, Third Edition
RP 39, Second Edition

RP 40, First Edition
RP 41, First Edition
RP 42, Second Edition
RP 43, Fourth Edition
RP 44, First Edition
RP 45, Second Edition
RP 46, First Edition
RP 48, First Edition
RP 49, Second Edition
RP 52, First Edition
RP 53, Second Edition
RP 54, First Edition
RP 56, First Edition
RP 57, First Edition
RP 58, First Edition
Bul D4, March, 1963
Bul D8, September 1964
Bul D9, Third Edition
Bul D10, Second Edition
Bul D11, Second Edition
Bul 12A, January 1979
Bul D14, Second Edition
Bul D15, First Edition
Bul D16, First Edition
Bul D17, Second Edition
Bul D19, First Edition
Bul D20, First Edition
Introduction to Oil & Gas Production (ITOGP), 1983
Corrosion of Oil and Gas-Well Equipment (COGWE), 1958
Subsurface Salt Water Injection and Disposal (SSWID), Second Edition
Well Testing (WT), Second Edition
Wireline Operations and Procedures (WLOP), 1983
Gas Lift (GL), Second Edition, 1984
RP T-1, Second Edition
RP T-2, October 1975
RP T-3, First Edition
RP T4, First Edition
RP T-5, Second Edition
RP T-6, First Edition

SECTION 2

ABBREVIATIONS AND DEFINITIONS

2.1 The following abbreviations and definitions were compiled from the API Publications listed in Section 1. Following each definition is, in parentheses, the publications(s) in which it is used. The definitions found herein have not been changed from their use in the indicated publication and in some cases there may be multiple definitions for the same word.

2.2 Abbreviations and Definitions

-A-

AAR – Association of American Railroads

ABANDON – To cease efforts to produce fluids from a well, in depleted formation and to plug the well without adversely affecting the environment. (Bul 10C)

ABANDON – To cease efforts to produce oil or gas from a well, and to plug a depleted formation and salvage all material and equipment. (ITOGP)

ABS – American Bureau of Shipping

ABATEMENT – The act or process of reducing the intensity of pollution; also, the use of some method of abating pollution. (Bul D11)

ABNORMAL OPERATING CONDITION – A condition which occurs in a process component when an operating variable ranges outside of its normal operating limits. (RP 14C)

ABRASIONS OR PEENING – Damage on the pipe resulting from a rubbing or pounding action against other pipe or some protrusion in the vessel. This latter condition may result in the initiation of fatigue cracks at the damaged areas during transit. (RP 5L5)

ABSOLUTE PRESSURE – Pressure measured from absolute zero pressure. It is ordinarily expressed as gage pressure (the pressure reading on a pressure gage) plus atmospheric pressure, and denoted in pounds per square inch absolute (psia). (WLOP)

ABSOLUTE VOLUME – The volume per unit mass, reciprocal of absolute density. (Bul 10C)

ABSORPTION – The penetration or apparent disappearance of molecules or ions of one or more substances into the interior of a solid or liquid. For example, in hydrated bentonite, the planar water that is held between the mica-like layers is the result of absorption. (Bul D11)

ABSORPTION - To soak up as a sponge takes water. (COGWE, ITOGP, SSWID)

AC FIELD – The active magnetic field produced by the use of alternating current. (RP 5A5)

ACCELERATION METHOD. Utilizes the angles at the top and bottom of the course length and from these generates a curve on the assumption that the measured angles change smoothly from top to bottom of the measured course as though under the influence of a constant force of

acceleration. The results obtained are the same as the “Balanced Tangential,” “Trapezoidal,” and “Vector Averaging” Methods. (Bul D20).

ACCELERATOR – A material which accelerates or speeds up the normal rate of reaction between cement and water, resulting in an increase in the development of early strength, and, in some cases, a decrease in the setting time or thickening time. (Bul 10C)

ACCEPTANCE CRITERIA – Limit of shape, size, and position of discontinuities acceptable within the context of the specific design requirements. (RP 2X)

ACCEPTANCE CRITERIA – Defined limits placed on characteristics of materials, products, or services. (Spec 6A, Spec 16A, Spec Q1)

ACCESS OPENING – An opening which allows communication to the interior of the flame arrestor housing making the mixer, pilot, burner, etc., accessible. This opening is normally closed by a flat plug or plate 3” to 4” in diameter, securely attached to the housing and tightly sealed against the opening. (RP 12N)

ACCESSORY – A secondary part of assembly of parts which contributes to the overall function and usefulness of a machine. (Spec 2C)

ACCLIMATION – The process of adjusting or adapting to changes in climate or environment. (Bul D11)

ACCUMULATOR – A pressure vessel charged with nitrogen gas and used to store hydraulic fluid under pressure for operation of blowout preventers. (RP 53)

ACI – American Concrete Institute

ACID – Any chemical compound containing hydrogen capable of being replaced by positive elements or radicals to form salts. In terms of the dissociation theory, it is a compound which, on dissociation in solution, yields excess hydrogen ions. Acids lower the pH. Examples of acids or acidic substances are: hydrochloric acid, tannic acid, sodium acid pyrophosphate. (Bul D11)

ACID BOTTLE – Early method of measuring the angle of inclination. A glass bottle with hydrofluoric acid was lowered to the bottom and allowed to set until the acid etched the glass. The angle of inclination was determined by the etched line. (Bul D20)

ACID RESISTANCE – The ability of a hardened cement slurry to withstand the softening and corrosive effects of organic or mineral acids, or water solutions of these acids and their salts having a pH lower than 7.0. (Bul 10C)

ACIDITY – The relative acid strength of liquids as measured by pH. A pH value below 7. See pH. (Bul 10C, Bul D11)

ACIDIZING – The practice of injecting acids into rock formations to remove any blocking material or to enlarge the pores to enhance the movement of fluid through the rock. (Bul 10C)

ACIDIZING – The treatment of formations with hydrochloric or other type acids in order to increase production or injection. (ITOGP)

ACIDIZING – The act of pumping an acidic solution into a wellbore to remove materials from the perforations, pipe, and walls of the producing formation or pumping the solution into formations to improve permeability. (RP 54)

ACOUSTIC IMPEDANCE – The factor which controls the propagation of an ultrasonic wave at a boundary interface. It is the product of the material density and the acoustic wave velocity within the material. (RP 2X)

ACT – Automatic Custody Transfer

ACT – Automatic Custody Transfer: A unit designed to automatically move oil from lease storage to pipe line. Normally made up of a pump, back-pressure valve, BS&W monitor, and oil meter. (WT)

ACTIVE ZONE – A region in which the ice moves and deforms. (Bul 2N)

ACTUATION TEST, BLOWOUT PREVENTER – The closing and opening of a blowout preventer unit to assure mechanical functionability. (RP 57)

ACTUATOR – A mechanism for the remote or automatic operation of a valve or choke. (Spec 6A)

ACUTE TOXICITY – Any poisonous effect produced within a short period of time, usually up to 24-96 hrs., resulting in severe biological harm and often death. (Bul D11)

ADAPTER – A pressure containing piece of equipment having API end connections of different nominal sizes and/or pressure ratings, used to connect other pieces of equipment of different API nominal sizes and/or pressure ratings. (Spec 16A)

ADDED MASS – Effective addition to the system mass which is proportional to the displaced mass of water. (RP 2T)

ADDENDUM – The distance between the pitch line and crest of thread. (RP 5B1)

ADDITION – A material added to a cement clinker during manufacture, commonly gypsum/anhydrite and water. (Bul 10C)

ADDITIVE – A material other than cement or water which is added to a cement subsequent to its manufacture to modify properties. Equivalent of admixture in ASTM usage. (Bul 10C)

ADEQUATE VENTILATION – Adequate ventilation is defined as ventilation (natural or artificial) which is sufficient to prevent the accumulation of significant quantities of vapor-air mixtures in concentration above 25% of their lower flammable (explosive) limit (LEL). (RP 500B)

ADEQUATELY VENTILATED AREA – An adequately ventilated area is an area that has a ventilation system (natural or artificial) which prevents the accumulation of gases to an explosive level. Adequate ventilation is provided by a change of air volume each five minutes, or 1.5 cubic feet of air volume flow per minute per square foot of floor area, whichever is greater. (RP 14F)

ADFREEZE- Adhesion between ice and a structural surface. (Bul 2N)

ADHESION – A physical attraction, operating on the molecular level, exerted between the surfaces of bodies in contact. (Bul 10C)

ADHESION – The molecular attraction or force exerted across the surfaces of contact between unlike liquids and solids which resist their separation. (Bul D11)

ADJUSTMENT – Activities associated with the sizing or setting of a SSCSV value as defined in the Manufacturer's Operating Manual. Adjustment may be performed at the well site or other location. Each part installed for the purpose of adjustment should be a qualified part. (RP 14B)

ADJUSTABLE CHOKE – A choke in which the position of a conical needle in a seat can be used to vary the rate of flow through the choke. (WLOP)

ADMINISTRATIVE OR REGULATORY AUTHORITY – Governmental agency or the employer in the absence of governmental jurisdiction. (Spec 2C)

ADMIX – To add one material to another by mixing. Note: Admix should not be used replaceably with addition, additive or admixture. (Bul 10C)

ADSORBED LIQUID – That liquid on the surfaces of solid particles that cannot be removed by draining, even with centrifugal force. (Bul 13C)

ADSORPTION – A surface phenomenon exhibited by a solid (adsorbent) to hold or concentrate gases, liquids, or dissolved substances (adsorptive) upon its surface, a property due to adhesion. For example, that water held to the outside surface of hydrated bentonite is absorbed water. (Bul D11)

ADSORPTION – The accumulation of a thin layer of molecules of gas or liquid on a solid surface. (COGWE, SSWID)

ADSORPTION – The attraction exhibited by the surface of a solid for a liquid or a gas when they are in contact. (ITOGP)

AERATE – Adding air into water by agitation. (SSWID)

AERATION – The technique of injecting air or gas in varying amounts into a fluid. (See Air Cutting.) (Bul 10C)

AERATION – The process of being supplied or permeated with air. (Bul D11)

AERATION – The technique of injecting air or gas in varying amounts into a drilling fluid for the purpose of reducing hydrostatic head. See Air Cutting. (Bul D11)

AEROBIC – With atmospheric oxygen present. (COGWE, SSWID)

AEROBIC – the condition associated with the presence of free oxygen in an environment; living, active, or occurring only in the presence of oxygen. (Bul D11)

AEROBIC BACTERIA – Bacteria that are active primarily in the presence of oxygen. (SSWID)

AEROSOL – Suspension of liquid or solid particles in air or gas. (Bul D11)

“A” FRAME – See Gantry also called Mast. (Spec 2C)

AGENCY – An organization or part of an organization selected by the owner to perform examinations as required by the specification or purchase order. (RP 2X)

AGENCY PERSONNEL – Technicians employed and trained by an independent organization, offered to the operator on a contract basis, for assisting in the construction inspections. (RP 2X)

AGER – A water filled pressure chamber used to apply external pressure to gas lift valves to flex the bellow during the pressure setting operation. (GL)

AGGLOMERATE – A mass of particles or substances closely associated and clustered together. (Bul D11)

AGGLOMERATION – The grouping of individual particles. (Bul D11)

AGGREGATE – An essentially inert material of mineral origin having a particle size predominately greater than 10 mesh. Also a group of two or more individual particles held together by strong forces which are not subject to dispersion by normal mixing or handling. (Bul 10C)

AGGREGATE – A group of two or more individual particles held together by strong forces. Aggregates are stable to normal stirring, shaking, or handling as powder or a suspension. They may be broken by drastic treatment such as ball milling a powder or by shearing a suspension. (Bul D11)

AGGREGATION – Formation of aggregates. In drilling fluids, aggregation results in the stacking of the clay platelets face to face. The viscosity and gel strength decrease in consequence. (Bul D11)

AGING – Natural or artificial curing of cement, cement slurries, and hardened cement paste during which various physico-chemical changes take place. (Bul 10C)

AGMA – American Gear Manufacturers Association

AIEE – American Institute of Electrical Engineers

AIR CURTAIN – A method for mechanical containment of oil spills. Air is bubbled through a perforated pipe causing an upward water flow that retards the spreading of oil. Air curtains may also be used as barriers to prevent fish from entering a polluted body of water. (Bul D11)

AIR CUTTING – The inadvertent mechanical incorporation and dispersion of air into a well-fluid system. See Aeration. (Bul 10C)

AIR CUTTING – The inadvertent mechanical incorporation and dispersion of air into a drilling-fluid system. (Bul D11)

AIR POLLUTION – The presence of contaminants in the air in concentrations that interfere directly or indirectly with human health, safety, comfort, or with the full use and enjoyment of property. (Bul D11)

AIR-QUALITY CRITERIA – The levels of pollution and lengths of exposure at which adverse effects on health and welfare occur. (Bul D11)

AIR-QUALITY STANDARDS – The prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographic area. (Bul D11)

AISC – American Institute of Steel Construction

AISI – American Iron and Steel Institute

ALKALI – Any compound having marked basic properties. See Base. (Bul 10C, Bul D11)

ALKALINITY – The combining power of a base measured by the maximum number of equivalents of an acid with which it can react to form a salt. In water analysis, it represents the carbonates, bi-carbonates, hydroxides, and occasionally the borates, silicates, and phosphates in the water. It is determined by titration with standard acid to certain datum points. (Bul 10C)

ALKALINITY – The combining power of a base measured by the maximum number of equivalents of an acid with which it can react to form a salt. In water analysis, it represents the carbonates, bi-carbonates, hydroxides, and occasionally the borates, silicates, and phosphates in the water. It is determined by titration with standard acid to certain datum points. See API RP

13B for specific directions for determination of phenolphthalein (P) and methyl orange (M) alkalinities of the filtrate in drilling fluids and the alkalinity of the mud itself (P). Also, see (P), (M), and (P). (Bul D11)

ALL-ELECTRIC RIG – A rotary drilling rig using power from electric power line. (Bul D10)

ALLOWABLE – The amount of oil or gas that a well is authorized by the state regulatory agency to produce during a given period. (ITOGP)

ALLOWABLE – The producing rate of a well, lease or unitized property, as established by existing rules and regulations of governing bodies. Usually based on depth, and/or well capacity, for a specific period of time such as one day or one month. (WT).

ALLOWABLE ROPE HOLD – The “nominal” breaking strength of the rope divided by a design factor. (Spec 2C)

ALLOY – A metal composed of two or more elements, at least one of which has good metallic properties. (COGWE, SSWID)

ALLOY – A metal composed of two or more elements, combined to produce certain metallic properties. (WLOP)

ALTERNATING CURRENT (AC) – Alternating current is current that reverses its direction of flow at regular intervals. (RP 5A5)

ALUMINUM STEARATE – An aluminum salt of stearic acid used as a defoamer. See Stearate. (Bul D11)

AMINE – A compound generally used to “sweeten” sour fluids or gases. (SSWID)

AMPERE (A or amp) – A unit of electrical current. (RP 5A5)

AMPERE-TURNS (A-t) – The product of the number of turns in a coil and the number of amperes of current flowing through it. This is a measure of the magnetizing strength of the coil. For example: 800 amperes in a 6 turn coil = 800 x 4800 A-t. (RP 5A5)

AMPLIFICATION REDUCTION FACTOR (C) – Coefficient applied to bending term in interaction equation for members subjected to combined bending and axial compression to account for overprediction of secondary moment given by the amplification factor $1/(1 - f/F')$. (Bul 2U)

AMPLIFIER – A device to increase or amplify electric impulses. (RP 2X)

AMPLITUDE (See related term: Stroke) – The distance from the mean position to the point of maximum displacement. In the case of a vibrating screen with circular motion, amplitude would be the radius of the circle. In the case of straight-line motion or elliptical motion it would be one-half of the total movement or one-half of the major axis of the ellipse; thus one-half stroke. (Bul 13C)

AMPLITUDE ECHO – The vertical height of an A-scan received signal, measured from base-to-peak or peak-to-peak. (RP 2X)

ANAEROBIC – With atmospheric oxygen absent. (COGWE, SSWID)

ANAEROBIC – Refers to life or processes that occur in the absence of oxygen. (Bul D11)

ANALYSIS, DRILLING-FLUID OR MUD – Examination and testing of the drilling fluid to determine its physical and chemical properties and condition. (Bul D11)

ANGLE BEAM – A wave train traveling at an angle, measured from the normal to the test surface to the centerline of the beam. (RP 2X)

ANGLE DROP-OFF – Rate of change (degrees/100 ft) of the inclination angle in the section of the wellbore that is decreasing toward vertical (refer to “Drop Off”). (Bul D20)

ANGLE INDICATOR – BOOM – An accessory which measures the angle of the boom above horizontal. (Spec 2C)

ANGLE OF ATTACK – Angle between the wellbore inclination/direction and the dip inclination/direction. (Bul D20)

ANGLE OF BUILDUP – Rate of change (degrees/100 ft) of the inclination angle in the section of the hole where the inclination from the vertical is increasing (refer to “Buildup”). (Bul D20)

ANGLE OF DRIFT – Refer to “Angle of Inclination.” (Bul D20)

ANGLE OF INCLINATION – That angle in degrees, taken at one or at several points of variation, from the vertical as revealed by a deviation survey; sometimes called the inclination or angle of deviation. (Bul D20)

ANGLE OF INCIDENCE – The included angle between the direction of the transmitted wave and the normal to the interface at the point of incidence. (RP 2X)

ANGLE OF REFLECTION – The angle defined by the direction of the reflected wave and the normal to the interface at the point of incidence. The angle of reflection is equal to the angle of incidence. (RP 2X)

ANGLE OF REFRACTION – The angle between the refracted rays of an ultrasonic beam and the normal to the refracting surface. (RP 2X)

ANGLE OF TWIST – The azimuth change through which the drill stem must be turned to offset the twist caused by the reactive torque of the downhole motor. (Bul D20)

ANGLE TESTING – A testing method in which transmission is at an angle to one test surface. (RP 2X)

ANGLE TRANSDUCER - A transducer that transmits or receives the acoustic energy at an acute angle to the surface to achieve a special effect such as the setting-up of shear waves in the part being inspected. (RP 2X)

ANGLE UNIT – Refer to “Inclinometer.” (Bul D20)

ANHYDRITE – See Calcium Sulfate. (Bul 10C)

ANHYDRITE – See Calcium Sulfate. Anhydrite is often encountered while drilling. It may occur as thin stingers or massive formations. (Bul D11)

ANHYDROUS – Without water. (Bul 10C, Bul D11)

ANILINE POINT – The lowest temperate at which equal volumes of freshly distilled aniline and an oil which is being tested are completely miscible. This test gives an indication of the character (paraffinic, naphthenic, asphaltic, aromatic, mid-continent, etc.) of the oil. The aniline point of diesels or crudes used in drilling fluid is also an indication of the deteriorating effect these materials may have on natural or synthetic rubber. The lower the aniline point of an oil the more severe it usually is in damaging rubber parts. (Bul D11)

ANION – A negatively charged atom or radical, such as Cl⁻, OH⁻, etc. in solution of an electrolyte. (Bul 10C)

ANION - A negatively charged atom or radical, such as Cl⁻, OH⁻, etc. in solution of an electrolyte. Anions move toward the anode (positive electrode) under the influence of an electrical potential. (Bul D11)

ANISOTROPIC FORMATION THEORY – Stratified or anisotropic formations are assumed to possess different drillabilities parallel and normal to the bedding planes, with the result that the bit does not drill in the direction of the resultant force. (Bul D20)

ANNULAR FLOW – Formation fluids are produced up through the tubing-casing annulus and recovered at the surface. (GL)

ANNULAR PACKOFF – A mechanism that seals off annular pressure between the OD of a suspended tubular member or hanger and the ID of the head or thru spool which the tubular member passes or hanger is suspended. (Spec 6A)

ANNULAR PREVENTER – A device which can seal around any object in the wellbore or upon itself. Compression of a reinforced elastomer packing element by hydraulic pressure effects the seal. (RP 53)

ANNULAR SPACE – The space around a pipe (casing or tubing) suspended in a wellbore is often termed the ANNULUS, and its outer wall may be either the wall of the borehole or the casing. (ITOGP)

ANNULAR SPACE – Space surrounding pipe in the wellbore. The outer wall of the annular space may be open hole or it may be pipe. (RP 54)

ANNULAR VELOCITY – The velocity of a fluid moving in the annulus. (Bul 10C, Bul D11)

ANNULUS – The space between tubing and casing. (GL)

ANNULUS (ANNULAR SPACE) – The space surrounding pipe suspended in the well bore. The outer wall of the annulus may be the wall of the bore hole or it may be larger pipe. (Bul 10C, SSWID, WLOP)

ANNULUS OR ANNULAR SPACE – The space between the drill string and the wall of the hole or casing. (Bul D11)

ANODE – The portion of a corrosion cell which corrodes. Oxidation always occurs at anode. (COGWE)

ANODE – The portion of a corrosion cell which corrodes. Oxidation always occurs at anode. Usually a piece of sacrificial metal connected to equipment for corrosion protection. (SSWID)

ANSI – American National Standards Institute.

ANTHRACITE MEDIUM – A type of coal which is commonly used in water filters. (SSWID)

ANTIDegradation CLAUSE – A provision in air-quality and water-quality laws that prohibits deterioration of air or water quality in areas where the pollution levels are presently below those allowed. (Bul D11)

ANTIFOAM – (See Defoamer.) A substance to prevent foam formation by greatly decreasing the surface tension. (Bul 10C)

ANTIFOAM – A substance used to prevent foam by greatly increasing the surface tension. See Defoamer. (Bul D11)

AOGA – Alaska Oil and Gas Association

AOSC – Association of Oilwell Serving Contractors

APERTURE – (See Related Term: Mesh.) An opening; in a screening surface the clear opening between wires. (Bul 13C)

APEX – See Preferred Term: Underflow Opening. (Bul 13C)

APEX VALVE – See Preferred Term: Underflow Opening. (Bul 13C)

APEX – American Petroleum Institute

API – American Petroleum Institute

API – Abbreviation for American Petroleum Institute, with headquarters in Washington, D.C. This is the trade association for the petroleum industry. The Institute's Production Department is located at 211 N. Ervay, Suite 1700, Dallas, TX 75201. (ITOGP)

API – American Petroleum Institute. Founded in 1920, this national oil industry trade association maintains a headquarters office in Washington, D.C., and a Production Department office in Dallas, Texas. It is also used as a slang expression for a job well done (that work is strictly API), or for utter confusion (it's API today, two engines are down). Standards for many items of drilling and producing equipment are produced by industry committees of the Production Department, including specifications for wire rope and solid wire line. (WLOP)

API CEMENT CLASSES – A classification system for well cements defined in API Spec 10. (Bul 10C)

API GRAVITY – The gravity (weight per unit volume) of crude oil or other related fluids as measured by a system recommended by the American Petroleum Institute. It is related to specific gravity by the following formula:

$$\text{Deg API} = \frac{141.5}{\text{Sp gr } 60 \text{ F}/60\text{F}} - 131.5 \quad (\text{Bul D11})$$

API GRAVITY – Specific gravity of crude oil as measured by a system recommended by API. (GL)

API GRAVITY – The standard adopted by API for measuring the density of a liquid, expressed in degrees. It can be converted from specific gravity by the following equation:

$$\text{Degrees API gravity} = \frac{141.5}{\text{Specific gravity (ITOGP)}} - 131.5$$

API GRAVITY – An arbitrary scale to conveniently express the gravity or density of liquid petroleum products. The scale is derived from "specific gravity" according to the following equation:

$$\text{API gravity} = \frac{141.5}{\text{Specific Gravity}} - 131.5$$

API gravity is expressed in degrees, a specific gravity of 1.0 being equivalent to 10 API. (WLOP)

API MONOGRAM – A registered mark of the American Petroleum Institute. (Spec 6A)

API SAND – Solid particles in a drilling fluid that are too large to pass through a U.S.S. No. 200 screen (74 micron equivalent). See API RP 13B. (Bul 13C)

API WELL NUMBER – A unique numeric identifier for a hole-in-the-ground. The identifier is assigned on the basis of surface location and extends from the surface to total depth. (Bul D12A)

APOA – Arctic Petroleum Operators Association.

APPARENT VISCOSITY – The viscosity a fluid appears to have on a given instrument at a stated rate of shear. It is a function of the fluid's plastic viscosity and the yield point. The apparent viscosity in centipoises, as determined by the direct-indicating viscometer (see Viscometer Direct-Indicating), is equal to ½ the 600-rpm reading. In a Newtonian fluid, the apparent viscosity is numerically equal to the plastic viscosity. See also Viscosity, Plastic Viscosity, and Yield-Point. (Bul 10C, Bul D11)

APPLICATOR – The organization responsible to the purchaser for the application of the coating. (RP 5L2)

APPOINTED – Assigned specific responsibilities by the employer or the employer's representative. (Spec 2C)

APPROACH AND DEPARTURE OBSTRUCTION – Any object which protrudes above the 8 to 1 clearance plane from the edge of the ground cushion area. (RP2L)

APPROACH AND DEPARTURE ZONE – A clear zone available for flight of a helicopter as it approaches or departs from the heliport's designated takeoff and landing area. (RP 2L)

APPROVED – Acceptable to the authority enforcing the rules. (Electrical devices which carry UL, FM or CSA approval are normally acceptable.) (RP 14F)

APPROVED – Means sanctioned, endorsed, accredited, certified, or accepted by a duly constituted and recognized authority or agency. Proper, adequate, sufficient, safe, due, appropriate, reasonable, accepted, periodically, readily, suitable, qualified competent, reliable, experienced, so as to ensure, accessible, frequently, indicative of a general standard of care are defined as in a prudent manner. (RP 54)

AQUATIC PLANTS – Plants that grow in water either growing up from the body of water, growing under the surface, or floating on the surface of the water. (Bul D11)

AQUIFER – An underground bed or stratum of earth, gravel, or porous stone that contains water. (Bul D11)

AQUIFER – A water-bearing rock strata. In a water-drive field the aquifer is the water zone of the reservoir underlying the oil zone. (ITOGP)

AQUIFER – A reservoir which bears water in recoverable quantity. (SSWID)

ARC BURNS - Localized points of surface melting caused by arcing between electrode or ground and pipe surface. (Bul 5T1)

ARCING – Current flow through a gap, often accompanied by intense heat and light. (RP 5A5)

ARCING DEVICE – A device which during its normal operation produces an arc with sufficient energy to cause ignition of an ignitable mixture. (RP14F)

AREA – See Location. (RP 500B)

AREAL EXTENT – Space or degree to which a thing is extended. Generally used to describe the distance to the outer boundaries of a reservoir. (SSWID)

ARTIFICIAL DISCONTINUITY OR NOTCH – Reference discontinuities such as holes, grooves or slots which are introduced into a reference standard to provide reproducible sensitivity levels for inspection equipment. (See reference standard.) (RP 5A5)

ARTIFICIAL ICE ISLAND – A grounded mass of mostly manmade ice. (Bul 2N)

ARTIFICIAL LIFT – The application of energy from an outside source to life reservoir fluids from a producing well. (GL)

ARTIFICIAL LIFT – Any method used to raise oil and gas to the surface after reservoir energy has declined to the point at which the well no longer produces by natural flow. The most common methods of artificial lift are sucker-rod pumps, hydraulic pumps, submersible pumps, and gas lift. (WLOP)

ARTIFICIAL LIFT EQUIPMENT – Equipment installed on, or in a well, to remove fluids from a well when it is no longer able to produce these fluids with its own energy, i.e. conventional rod pumping unit, hydraulic pump, submersible pump, gas lift, etc. (WT)

ASA – American Standards Association.

ASBESTOS – Mineral fiber (as amphibole) with numerous industrial uses; a hazardous air pollutant when inhaled. (Bul D11)

ASBESTOS – Term applied to many fibrous silicate minerals, some forms of which are used in certain drilling fluids. (Bul D11)

A-SCAN – A method of data presentation on a CRT (cathode ray tube) utilizing a horizontal bases line that indicates distance, or time, and a vertical deflection from the base line which indicates amplitude. (RP 2X)

A-SCAN DISPLAY – A cathode ray tube display in which the received signal is displayed as a vertical excursion from the horizontal sweep time trace, the horizontal distance between any two signals represents the material distance between the two conditions causing the signals. (RP 2X)

ASCE – American Society of Civil Engineers.

ASME – American Society of Mechanical Engineers.

ASME SPPE ACCREDITATION PROGRAM – Refers to the accreditation program described in ANSI/ASME SPPE-1 and SPPE-2 (formerly OCS-1 and OCS-2) and the ASME procedure for accreditation. (RP 14B, Spec 14)

ASNT – American Society for Nondestructive Testing

ASPHALT – A natural or mechanical mixture of solid or viscous bitumens found in natural beds or obtained as a residue from petroleum. Asphalt, blends containing asphalt, and altered asphaltic materials (e.g., air-blown, chemically modified, etc.) have been added to certain drilling fluids for such widely different purposes as a component in oil-base drilling fluids, lost-circulation material, emulsifier, fluid-loss-control agent, wall-plastering agent, etc. (Bul D11)

ASSE – American Society of Safety Engineers

ASSEMBLER – An agent who connects the SSV/USV actuator and SSV/USV valve and performs the functional test in accordance with API Spec 14D. (RP 14H, Spec 14D)

ASSIMILATION – The transformation and incorporation of nutrient by an organism or ecosystem. (Bul D11)

ASSOCIATED GAS – Natural gas which is in contact with crude oil in the reservoir. (ITOGP)

ASTM – American Society for Testing and Materials

ASTEM CEMENT TYPES – See Cement, ASTM Types (Bul 10C)

ATMOSPHERE – The layer of air surrounding the earth. (Bul D11)

ATMOSPHERIC PRESSURE – The pressure exerted over the surface of the earth by the weight of the atmosphere. At sea level, this pressure is approximately 14.7 pounds per square inch (psi). (WLOP)

ATMOSPHERIC SERVICE – Refers to operation at gauge pressures between ½ ounce per square inch vacuum and 5 pounds per square inch pressure. (RP 14C)

ATMOSPHERIC ZONE – The part of a structure above the splash zone. (Bul 2N)

ATOM – The smallest particle of matter which can enter into chemical combination, i.e., iron (Fe), oxygen (O), hydrogen (H), carbon (C), chlorine (Cl). (COGWE, SSWID)

ATOM – According to atomic theory, the smallest quantity of an element which is capable of entering into chemical combination or that can exist alone. (Bul D11)

ATOMIC NUMBER – A number, characteristic of an element, which designates the place of the element in the periodic table. This number represents the net positive charge on the nucleus of an atom and is also equal to the number of protons within the nucleus. In a neutral atom, the atomic number necessarily equals the number of electrons outside the nucleus. (Bul D11)

ATTAPULGITE CLAY – A fuller’s earth type of clay, a hydrous magnesium aluminum silicate, used as a thickener principally in salt-water drilling fluids. (Bul 10C)

ATTAPULGATITE CLAY – A colloidal, viscosity-building clay used principally in salt-water drilling fluids. Attapulgate, a special fullers earth, is a hydrous magnesium aluminum silicate. (Bul D11)

ATTENUATION – The loss in acoustic energy which occurs between any two points of travel (this loss may be due to absorption, reflection, etc.), or the controlled reduction in sensitivity within the instrument. (RP 2X)

ATTENUATOR – A device for introducing attenuation, usually calibrated in decibels (db). (RP 2X)

AUDIOMETER – An instrument for measuring hearing sensitivity and calibrated in decibels. (Bul D11)

AUDIT – A documented investigation conducted by the manufacturer to verify that applicable requirements are being implemented. (Spec Q1)

AUSTENITE – A solid solution of one or more elements in face-centered cubic iron. (Bul D20)

AUSTENITIC – A non-magnetic (face-centered cubic) state of iron or an iron alloy. (COGWE)

AUSTENITIC – A non-magnetic state of iron or an iron alloy. (SSWID)

AUSTENITIC STAINLESS – A stainless steel whose structure is austenitic at room temperature and which is used for non-magnetic drill collars, etc. (Bul D20)

AUTHORIZED – Appointed by a duly constituted administrative or regulatory authority. (Spec 2C)

AUTHORIZED FACILITY – A facility authorized under the applicable quality assurance program (Appendix A of API Spec 14A, ASME – SPPE or other) specified by the operator on his purchase order. (RP 14H, Spec 14A, Spec 14B, Spec 14D)

AUTHORIZED PERSON – A person assigned by the employer to perform or supervise the performance of a specific type of duty or duties or to be at a specific location(s) at the work site. (RP54)

AUTOCLAVE EXPANSION – A measurement or test made as provided in ASTM C 151: Test for Autoclave Expansion of Portland Cement, Book of ASTM Standards, Part 13. (Bul 10C)

AUTOMATICALLY FIRED VESSEL – A fired vessel with the burner fuel controlled by an automatic temperature or pressure controller. (RP 14C)

AUTOMATION – The automatic, self-regulating control of equipment, systems, or processes. (ITOGP)

AUTOMATION – Equipment installed to provide unattended continuous operation according to a pre-set program. (WT)

- B-

BABBITT – Metal from which engine bearings are made. Usually consists of tin, copper, and antimony. (WLOP)

BACK-OFF – To unscrew. (Bul 10C)

BACK OFF – To unscrew one threaded piece (such as a section of pipe) from another. (ITOGP)

BACK OFF – To unscrew one threaded piece from another. (WLOP)

BACK PRESSURE – The pressure resulting from restriction of full natural flow. (Bul 10C)

BACK PRESSURE – The pressure existing within the producing string at the surface in a gas lift well. Also used to designate the fluid pressure at the level of gas injection, the pressure against which the operating valve injects gas. (GL)

BACK PRESSURE – The pressure resulting from restriction of full natural flow of oil or gas. (ITOGP)

BACK PRESSURE VALVE – A valve that permits flow in only one direction. (RP 57)

BACK PRESSURE VALVE – A one-way check valve that is installed through the X-mas tree, into the tubing hanger, and prevents well fluids from flowing out of the well. (Spec 6A)

BACK PRESSURE VALVE – A valve designed to control flow rates in such a manner that upstream pressure remains constant. May be operated by diaphragm, spring, or weighted lever. (WT)

BACK REFLECTION – The signal received from defects or other reflecting surfaces. (RP 2X)

BACK REFLECTION – In ultrasonic testing, the signal received from the back surface of the pipe wall. (RP5A5)

BACK UP – To hold one section of an object, such as a pipe or a nut, while another is being screwed into or out of it. A BACK-UP WRENCH refers to any wrench being used to hold the pipe or bolt. (ITOGP)

BACKFLOW – Fluid flow in a process component opposite to the normal flow direction. (RP 14C)

BACKGROUND LEVEL – With respect to pollution, amounts of pollutants present due to natural sources. (Bul D11)

BACKGROUND NOISE – Extraneous signals caused by signal sources within the ultrasonic testing system, including the material in test. (RP 2X)

BACKPRESSURE – (See Related Term: Differential Pressure.) The pressure opposing flow from a solids separation device. (Bul 13C)

BACKSCATTER – Secondary radiations resulting from the interaction between the primary gamma radiations from the source and the pipe wall. (RP 5A5)

BACKUP – Refers to the act of “backing up” or preventing rotation of one section of pipe while another is screwed out of or into it. Also applied to screwing nuts on or off bolts. A backup wrench refers to any wrench being used to hold the pipe or bolt. Backup tong is applied to the pipe tongs suspended in the derrick and used to hold a section of pipe while another section is screwed out of or into it by use of other tongs. The backup man is the crew member who operates the backup tongs. The backup position refers to the work station of the backup man. (RP54)

BACKWARD STATION METHOD – Refer to “Tangential Method.” (Bul D20)

BACTERIA – Single-celled microorganisms that lack chlorophyll. Some bacteria are capable of causing human, animal, or plant diseases; others are essential in pollution control processes because they break down organic matter in water and air. (Bul D11)

BAD OIL – Oil not acceptable for delivery to the pipeline purchaser because of too high BS&W; oil requiring additional treating. (ITOGP)

BAFFLES – Plates or obstructions built into a tank or other vessel to change the direction of fluid flow. (ITOGP)

BAIL – To recover bottom-hole fluids, samples, or drill cuttings by lowering a cylindrical vessel, called a “bailer,” to the bottom of a well, filling it, and retrieving it. Also, a link of steel attached to pipe elevators for lifting. (WLOP)

BAILER – A long cylindrical container, fitted with a valve at its lower end, used to remove water, sand, mud, or oil from a well. (WLOP)

BALANCE, MUD – A beam-type balance used in determining fluid density. (Bul 10C)

BALANCE, MUD – A beam-type balance used in determining drilling fluid density. It consists primarily of a base, graduated beam with constant-volume cup, lid, rider, knife edge, and counterweight. (Bul D11)

BALANCED TANGENTIAL METHOD – Uses the inclination and direction angles at the top and bottom of the course length in a manner so as to tangentially balance the two sets of measured angles over the course length. Results obtained are the same as the “Acceleration,” “Trapezoidal,” and “Vector Averaging” Methods. (Bul D20)

BALL AND SEAT – Parts of the valves in a plunger-type oil well pump. (ITOGP)

BALLAST – See Counterweight. (Spec 2C)

BAND BRAKE – Circular type of brake either of external contracting type or internal expanding type, having a band lined with heat and wear resistant friction material. (Spec 2C)

BAND CLUTCH – Circular type of clutch either of external contracting type or internal expanding type, having a band lined with heat and wear resistant friction material. (Spec 2C)

BAND-STRAPPING – A method of attaching plastic or metal sheeting to a cylindrical structure by use of metal bands which encircle the sheeting and secure it in place. (COGWE, SSEID)

BARITE – A native crystalline barium sulfate, which occurs in snow-white crystalline masses, or grayish, reddish, and greenish ores with a specific gravity of 4 to 4.6. It is used for increasing the density of well cement slurries and drilling fluids (synonym BARYTES, HEAVY SPAR). (Bul 10C)

BARITE, BARYTES, OR HEAVY SPAR – Natural barium sulfate used for increasing the density of drilling fluids. If required, it is usually upgraded to a specific gravity of 4.20. The barite mineral occurs in white, grayish, greenish, and reddish ores or crystalline masses. (Bul D11)

BARIUM SULFATE – BaSO_4 . See Barite. (Bul 10C, D11)

BARREL – A volumetric unit of measure used in the petroleum industry consisting of 42 gallons. (Bul D11)

BARREL – The lagging or body portion of a wire rope drum. (Spec 2C)

BARREL – (BBL OR bbl) – A common unit of liquid volume measurement in the petroleum industry. One barrel (1bbl) is equivalent to 42 gallons (158.97 liters). (WLOP)

BARREL OF CEMENT – A dry weight measure of cement equal to 4 cu. Ft. (0.11 m^3) or 376 lb. (171 kg). (Bul 10C)

BARREL OF CEMENT SLURRY – 42 gallons (0.16 m^3) of cement slurry. (Bul 10C)

BARREL EQUIVALENT – A laboratory unit used for evaluating or testing drilling fluids. One gram of material, when added to 350 mL of fluid, is equivalent to 1 lb. (0.45 kg) of material when added to one 42-gallon (0.16 m^3) barrel of fluid. (Bul 10C, Bul D11)

BASE – A compound of a metal, or a metal-like group, with hydrogen and oxygen in the proportion to form an OH- radical, which ionizes in aqueous solution to yield excess hydroxyl ions. Bases are formed when metallic oxides react with water. Bases increase the pH. Examples are caustic soda and lime. (Bul 10C, Bul D11)

BASIC EXCHANGE – The replacement of cations associated with the clay surface by those of another species, e.g., the conversion of sodium clay to calcium clay. (Bul 10C, Bul D11)

BASE LINE – The “distance” trace (horizontal) across the A-scan CRT display. (RP 2X)

BASE (MOUNTING) – See Pedestal. (Spec 2C)

BASIC SEDIMENT AND WATER (BS&W) – The water and other extraneous material present in crude oil. (ITOGP)

BASIC SIZE – The theoretical or nominal standard size from which all variations are measured. (RP 5B1)

BASICITY – The relative base strength of liquids as measured by pH. A pH value above 7. See pH. (Bul 10C)

BASICITY – pH value above 7. Ability to neutralize or accept protons from acids. (Bul D11)

BATCH – A definite amount of oil, mud, chemicals, cement, or other material in a treatment or operation. (ITOGP)

BATCH – The quantity of coating material manufactured at one time in a single vessel and identified by a unique batch number. (RP 5L2)

BATCH – The quantity of material produced during a continuous production run of not more than 8 hours. (RP 5L7)

BATTERY – Sometimes termed Tank Battery, is an area where storage tanks are installed to receive produced fluids. May include several tanks, and/or separation and treating equipment. (WT)

BATTERY (TANK BATTERY) – The production handling equipment on the lease. (ITOGP)

BAY – The section of cylinder between rings. (Bul 2U)

BAY INSTABILITY – Simultaneous lateral buckling of the shell and stringers with the rings remaining essentially round. (Bul 2U)

BBL – Barrel, a unit of liquid volume measurement. Sometimes shown as bbl. One bbl contains 42 gallons. (SSWID, WT)

BBL/D – Barrels per day. (WLOP)

BCPMM – Barrels condensate per million. Barrels of condensed liquid per million cu. ft. gas. (WT)

B/D – The abbreviation for barrels per day. Other related abbreviations are: BPD for barrels per day; BOPD for barrels of oil per day; BWPD for barrels of water per day; BLPD for barrels of liquid per day. (ITOGP)

B/D – Barrels per day. (Alternate for BBL/D usually used in drilling reports.) (WLOP)

BEACH – Area between the liquid pool and the solids discharge ports in a decanting centrifuge. (Bul 13C)

BEAM – The walking beam of a pumping unit. (ITOGP)

BEAM ANGLE – The beam angle or angle of incidence is the angle between the normal to a plan surface of the specimen and the axis of the beam in the specimen. It is a function of the specimen material. (RP 2X)

BEAM SPREAD – The divergence of the sound beam as it travels through a medium. (RP 2X)

BEAM WELL – A well whose fluid is being lifted by rods and pump actuated by a beam pumping unit. (ITOGP)

BEAN – A type of choke used to regulate the flow of fluid from a well. Different sizes of beans are used for different producing rates. (ITOGP)

BEAN – The orifice or designed restriction causing the pressure drop in velocity type SSCSVs. (RP 14B, Spec 14A)

BEARING – Refer to “Azimuth.” (Bul D20)

BEARING RACEWAY – The surface of the bearing rings which contact the rolling element (balls or rollers) of the swing bearing assembly. (Spec 2C)

BEARING RING – The rotating and stationary rings that house the rolling elements (balls or rollers) of the swing bearing assembly. (Spec 2C)

BED DEPTH – Thickness of the layer of material traversing a screen surface. (Bul 13C)

BELL HOLE – A bell-shaped hole dug beneath a pipeline to provide room for use of tools by workers. (ITOGP)

BELL NIPPLE (MUD RISER FLOW NIPPLE) – A piece of pipe, with inside diameter equal to or greater than the blowout preventer bore, connected to the top of the blowout preventer or marine riser with a side outlet to direct the drilling fluid returns to the shale shaker or pit. Usually has a second side outlet for the fill-up line connection. (RP 53)

BELLOWS – The responsive element of a gas life valve. It performs the same functions the diaphragm operated valve. It provides an area for pressure to act on and to move the valve stem. (GL)

BENCH MARKS – Permanent reference points of known elevation usually placed on concrete foundations, or on top of an iron stake driven securely into the ground. (SSWID)

BENDING MOMENT – The moment tending to bend the drill string or bottom-hole assembly (refer to “Moment”). (Bul D20)

BENDING STRESS – When the drill stem buckles, each cross-section is subjected to a bending moment generating a tensile stress on one side and a compressive stress on the other. As the drill stem rotates these stresses reverse and, consequently, can cause fatigue of the metal. (Bul D20)

BENT SUB – Sub used on top of a downhole motor to give a non-straight bottom assembly. One of the connecting threads is machined at an angle to the axis of the body of the sub. (Bul D20)

BENTONITE – A highly plastic, highly colloidal clay, largely consisting of the mineral montmorillonite, a hydrated aluminum silicate. (Bul 10C)

BENTONITE – A plastic, colloidal clay largely made up of the mineral sodium montmorillonite; a hydrated aluminum silicate. For use in drilling fluids, bentonite has a yield in excess of 85 bbl/ton. The generic term “bentonite” is neither an exact mineralogical name or is the clay of definite mineralogical composition. (Bul D11)

BEST RECORD – The largest perfect record known to the National Safety Council for a specific industrial classification, according to Standard Industrial Classification Manual, 1972 edition. (Bul T-5)

BEVEL ANGLE – the angle between the weld preparation (and subsequently the fusion line) and the member surface. (RP 2X)

BHP – Bottom hole pressure.

BHT – Bottom Hole Temperature (F)

BICARB – See Sodium Bicarbonate. (Bul D11)

BIG-EYED BIT – Drill bit with one large sized jet nozzle, used for jet deflection. (Bul D20)

BIMETALLIC CELL – A corrosion cell in which dissimilar metals are connected together electrically both with a metallic path and with a liquid which is corrosive to at least one of the metals. (COGWE, SSWID)

BIOASSAY – An assessment or test made using living organisms as the sensors; e.g., a fish toxicity test. (Bul D11)

BIOCHEMICAL OXYGEN DEMAND (BOD) – A standardized measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. It is measured as the quantity of dissolved oxygen (mg/l) required during stabilization of the decomposable organic mater by aerobic biochemical action. (Bul D11)

BIOCIDE – A chemical agent used to destroy bacteria in water systems. (SSWID)

BIODEGRADABLE – Decomposable as a result of the action of microorganisms. (Bul D11)

BIOLOGICAL OXIDATION – The process by which bacterial and other microorganisms feed on complex organic materials and decompose them. The process is also called biochemical oxidation. (Bul D11)

BIOMONITORING – The use of living organisms to test the suitability of effluent for discharge into receiving waters and to test the quality of such waters downstream from a discharge. (Bul D11)

BIRD CAGE – To flatten and spread the strands of a cable or wire rope. Also the slatted or mesh-enclosed cage used to hoist workmen from crew boats to offshore platforms. (ITOGP)

BIT GEOMETRY – Refers to the geometric construction of a bit; i.e., 3-cone, 4-cone, 2-cone, flat-face, configuration of the teeth, etc. (Bul D20)

BIT HYDRAULIC HORSEPOWER (BHHP) – The hydraulic horsepower equivalent of the gallons per minute and the pressure drop across the bit nozzles.

$$\frac{\text{GPM} \times \text{psi}}{1,714} = \text{BHHP} \quad (\text{Bul D10})$$

BIT STABILIZATION – Refers to stabilization of the downhole assembly near the bit; a stabilized bit is forced to rotate around its own axis. (Bul D20)

BLACK CRESTED THREAD – A thread that does not have a full crest because the original (black) mill surface has not been completely removed. (Bul 5T1, RP5A5)

BLACK CRESTED THREADS – Threads crests exhibiting the original pipe surface after machine. (RP 5B1)

BLACK LIGHT – A colloquial expression used to describe Ultraviolet Light (UV). See ultraviolet light. (RP 5A5)

BLACK WATER – A term generally used to describe water that contains products of corrosion caused by bacterial action. (SSWID)

BLADE – See Preferred Term: Flute (Bul 13C)

BLANK FLANGE – A solid disk used to dead-end, or close off, a companion flange. (WLOP)

BLANK LINER – A liner without perforations or slots (ITOGP)

BLANK OFF – To close off by sealing or plugging. (ITOGP)

BLEED – To drain off liquid or gas, generally slowly, through a valve called a bleeder. To **BLEED DOWN**, or **BLEED OFF**, means to slowly release the pressure of a well or of pressurized equipment. (ITOGP)

BLEEDER VALVE – A small valve on a pipeline, pump, or tank from which samples are drawn or to vent air or oil; sample valve. (ITOGP)

BLEEDING – Separation of the liquid phase in a cement slurry due to settling of solids. See Free Water. (Bul 10C)

BLIND – To close a line to prevent flow. (ITOGP)

BLIND FLANGE – (Also a **BLANK FLANGE**.) A solid disc used to dead end a companion flange. (ITOGP)

BLIND RAM – An integral part of a “blowout preventer,” serving as the closing element. The ends of a blind ram are not intended to fit around the drill pipe but to seal against each other and shut off completely the space below. (See Ram.) (WLOP)

BLIND RAMS (BLANK, MASTER) – Rams whose ends are not intended to seal against any drill pipe or casing. They seal against each other to effectively close the hole. (RP 53)

BLIND/SHEAR RAMS – Blind rams with a built-in cutting edge that will shear tubulars that may be in the hole, thus allowing the blind rams to seal the hole. Used primarily in subsea systems. (RP 53)

BLINDING – (See Related Term: Coating and Plugging.) A reduction of open area in a screening surface caused by coating or plugging. (Bul 13C)

BLISTER – A raised spot on the surface of pipe caused by expansion of gas in a cavity within the pipe wall. (Bul 5T1)

BLOCKS, CROWN AND TRAVELING – The fixed upper and movable lower blocks respectively of the block and tackle assembly on a rig that raises and lowers the drill string or tubing. (RP 54)

BLOOIE LINE – Flow line for air or gas drilling. (Bul D11)

BLOWDOWN VALVE – An automatically operated normally open valve used to vent the pressure from a process station on shutdown. (RP 14C)

BLOWOUT – An uncontrolled flow of well fluids from the wellbore. (Bul 10C)

BLOWOUT – An uncontrolled flow of well fluids and/or formation fluids from the wellbore caused by the formation pressure being greater than the hydrostatic head of the fluid in the hole. See Underground Blowout. (Bul D11)

BLOWOUT – An uncontrolled flow of gas, oil, or other fluids from a well. (ITOGP)

BLOWOUT – An uncontrolled flow of well fluids and/or formation fluids from the wellbore or into lower pressured subsurface zones (underground blowout). (RP 53, RP 54)

BLOWOUT – A temporary uncontrolled flow of gas, oil, or other well fluids from a well to the atmosphere. A well blows out when formation pressure exceeds the pressure being applied to it by the column of drilling fluids and measures are unsuccessful in rectifying this situation. Early day gushers were blowouts. (WLOP)

BLOWOUT PREVENTER – A device attached immediately above the casing, which can be closed to shut off the hole should a blowout threaten. (Bul 10C)

BLOWOUT PREVENTER (BOP) – The equipment installed at the wellhead for the purpose of controlling pressures in the annular space between the casing and drill pipe (or tubing) during drilling, completion and certain workover operations. (ITOGP)

BLOWOUT PREVENTER – A device attached to the casinghead that allows the well to be sealed to confine the well fluids in the wellbore. (RP 53)

BLOWOUT PREVENTER – A device attached to the wellhead that allows the well to be sealed with or without a string of pipe or wireline in the wellbore. (RP 54)

BLOWOUT PREVENTER AND PLATFORM (BOP) – Equipment installed at the surface, below the drilling floor on land and platform rigs and on the seafloor of floating offshore rigs to prevent the escape of pressure either in the annular space between the casing and drill pipe or in an open hole during drilling and completion operations. Also used during some workover operations. (WLOP)

BLOWOUT PREVENTER, ANNULAR TYPE – A device which can form a seal in the annular space around any object in the wellbore or upon itself. Compression of a reinforced elastomer packing element by hydraulic pressure effects the seal. (RP 57)

BLOWOUT PREVENTER DRILL – A training procedure to determine that rig crews are familiar with correct operating practices to be followed in the use of blowout prevention equipment. A “dry run” of blowout preventive action. (RP 53)

BLOWOUT PREVENTER OPERATING AND CONTROL SYSTEM (CLOSING UNIT) – The assembly of pumps, valves, lines, accumulators, and other items necessary to open and close the blowout preventer equipment. (RP 53)

BLOWOUT PREVENTER, RAM TYPE – A device designed to form a seal on the hole with no pipe or in the annular space with pipe in the hole. The equipment can use pipe rams, blind rams, or blind/shear/cutter rams to affect the required seal, according to equipment availability, arrangement of the equipment, and/or existing well conditions. Pipe rams have ends contoured to seal around pipe to close and seal the annular space. Blind rams have ends not intended to seal against any tubulars, rather they seal against each other to effectively close and seal the wellbore. Blind/shear/cutter rams are blind rams equipped with a built-in cutting edge that will shear tubulars that may be in the hole, thus allowing the blind rams to close against each other and seal the wellbore. (RP57)

BLOWOUT PREVENTER REMOTE CONTROL – A control that actuates the blowout preventer from a position apart from the blowout preventer. (RP 54)

BLOWOUT PREVENTER STACK – The assembly of well control equipment including preventers, spools, valves, and nipples connected to the top of the casinghead. (RP 53)

BLOWOUT PREVENTER TEST TOOL – A tool to allow pressure testing of the blowout preventer stack and accessory equipment by sealing the wellbore immediately below the stack. (RP 53)

BLPD – Barrels of total liquid per day.

BLUFF BODY – An opaque object located in a fluid flow stream and developing a high drag force because it lacks streamlining. (RP 2T)

BLUNT START – The removal of the partial thread at the entering end of thread. (RP 5B1)

BOD – The amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter in an effluent. See Biochemical Oxygen Demand. (Bul D11)

BODY – Any portion of API equipment between end connections, with or without internal parts, which contains wellbore pressure. (Spec 6A, Spec 16A)

BOILERHOUSE – To make up a report on a condition as fact without knowledge of its accuracy. Sometimes referred to as “doghouse.” (Bul D11)

BOILERHOUSE – To make up or fake a report without actually doing the work. (ITOGP)

BOLL WEEVIL – Any inexperienced worker or “hand.” (ITOGP)

BOLL WEEVIL – An inexperienced rig or oil-field employee (slang). Sometimes the word is shortened simply to “weevil.” (WLOP)

BOLTING – Threaded fasteners (studs, nuts, bolts and capscrews) used to assemble pressure containing parts or join end or outlet connections. (Spec 6A, Spec 16A)

BOMB – A thick-walled container, usually made of steel, that is used to receive samples of oil or gas under pressure or to measure and record the pressure at a point in the well. (See Bottom Hole Pressure.) (WLOP)

BOND – Adhering, binding, or joining of two materials; e.g., cement to casing. (Bul 10C)

BONDING – The state of bond between cement and casing and/or formation. (Bul 10C)

BONNET – The part of a valve that packs off and encloses the valve stem. (ITOGP)

BONNET – A pressure-containing closure for a body, other than an API end or outlet connection. (Sec 6A)

BOOM – A floating fence-like device that is used to contain oil on a body of water. (Bul D11)

BOOM – A member hinged to the revolving upperstructure and used for supporting the hoist tackle. (Spec 2C)

BOOM ANGLE – The angle above or below horizontal of the longitudinal axis of the base boom section. (Spec 2C)

BOOM CHORD – A main corner member of a lattice type boom. (Spec 2C)

BOOM EXTENSION – Intermediate section of a telescoping boom. (Spec 2C)

BOOM FOOT PIN – The boom pivot point on the upperstructure. (Spec 2C)

BOOM HOIST MECHANISM – Means for supporting the boom and controlling the boom angle. (Spec 2C)

BOOM HOIST WIRE ROPE – Wire rope that operates on a drum controlling the angle positioning of the boom. (Spec 2C)

BOOM LACING – Structural truss members at angles to and supporting the boom chords of a lattice type boom. (Spec 2)

BOOM LENGTH – The straight line distance from the centerline of boom foot pin to centerline of boom point load hoist sheave pin, measured along the longitudinal axis of the boom. (Spec 2C)

BOOM LIFE CYLINDER – Means for supporting the boom and controlling the boom angle. (Spec 2C)

BOOM POINT SHEAVE ASSEMBLY – An assembly of sheaves and pin built as an integral part of the boom point. (Spec 2C)

BOOM SPLICES – Splicing connections for sections of basic crane boom and additional sections usually of the splice plate type, pin type or butt type. (Spec 2C)

BOOM STOP – A device used to limit the angle of the boom at the highest recommended position. (Spec 2C)

BOOM TIP EXTENSION – See Jib. (Spec 2C)

BOOT – A tall section of large-size pipe used as a surge column on a vessel. (ITOGP)

BOP – Blow Out Preventer

BOPD – Barrels of oil per day

BOREHOLE - The wellbore; the hole made by drilling or boring a well. (Bul D20)

BOREHOLE AXIS – Refer to “Hole Axis.” (Bul D20)

BOREHOLE DIRECTION – Refers to the azimuth in which the borehole is heading. (Bul D20)

BOREHOLE DIRECTIONAL SURVEY – Refers to the measurements of the inclinations, azimuths, and specified depths of the stations through a section of borehole. (Bul D20)

BOREHOLE SURVEY CALCULATION METHODS – Refer to “Wellbore Survey Calculation Methods.” (Bul D20)

BORESCOPE – A long optical instrument with an illuminating lamp for inspecting the inside surface of a pipe. (RP 5A5)

BOTTOM – See Preferred Term: Underflow Opening. (Bul 13C)

BOTTOM CASING PACKOFF – A mechanism that seals off annular pressure between the OD of a suspended tubular member or hanger and the ID of the spool or tubing head adapter being placed over the suspended tubular or hanger. (Spec 6A)

BOTTOM FLOODING – The behavior of a hydrocyclone when the underflow discharges in a liquid stream. (Bul 13C)

BOTTOM-HOLE – The lowest or deepest part of a borehole. (Bul D20, ITOGP, WLOP)

BOTTOM-HOLE ASSEMBLY – Assembly composed of the bit, stabilizers, reamers, drill collars, subs, etc., used at the bottom of the drill string. Sometimes abbreviated as BHA. (Bul D20)

BOTTOM-HOLE BACK TORQUE – Torque on the drill stem causing a twisting of the string (refer to “Pipe Wind-up Angle”). (Bul D20)

BOTTOM HOLE CHOKE – A device with a restricted opening placed in the lower end of the tubing to control the rate of liquid or gas flow to the surface. (See Choke.) (WLOP)

BOTTOM-HOLE LOCATION – Position of the bottom of the hole given with respect to some known surface location. (Bul D20)

BOTTOM-HOLE ORIENTATIONS SUB – A sub in which a free-floating ball rolls to the low side and opens a port indicating an orientation position (refer to “Hydraulic Orientating Sub”). Sometimes abbreviated as BHO sub. (Bul D20)

BOTTOM HOLE PRESSURE – The pressure in a well at a point opposite the production formation, usually recorded by a bottom hole pressure instrument popularly called a “bomb.” The “bomb” houses a precision gage and is usually lowered on a wireline. (See Bomb.) (WLOP)

BOTTOM HOLE PRESSURE – Pressure in a wellbore at the depth of the producing interval. Usually recorded by gage run on wire line. (WT)

BOTTOM HOLE PRESSURE – The pressure at the bottom of a well generally associated with the pore pressure of the formation open to the well. (Bul 10C)

BOTTOM-HOLE ROLL-OFF – Refer to “Roll Off.” (Bul D20)

BOTTOM HOLE TEST ADAPTER – See Top Connection. (Spec 6A)

BOTTOM WATER – Water occurring below the oil and gas in a production formation. (ITOGP)

BOTTOMHOLE PRESSURE – Pressure at some given depth in the well, usually opposite the producing formation. (GL)

BOUND LIQUID – See Preferred Term: Adsorbed Liquid. (Bul 13C)

BOUNDARY ECHO – A reflection of an ultrasonic wave from an interface. (RP 2X)

BOWL – The outer rotating chamber of a decanting centrifuge. (Bul 13C)

BOWL – A device that fits in the rotary table or wellhead to hold the wedges or slips that support a string of drill pipe, casing or tubing while tripping in or out of the hole. (ITOGP)

BRACES – Structural members that serve to stiffen the hull structure and provide deck support. (RP 2T)

BRACKISH WATER – Water containing low concentrations of any soluble salts. (Bul 10C, Bul D11)

BRADENHEAD GAS – See Casinghead Gas. (ITOGP)

BRADENHEAD SQUEEZE – The process by which hydraulic pressure is applied to a well to force fluid such as cement outside the wellbore. Annular returns may be prevented by closing the casinghead valves instead of having a packer in the hole. (RP 57)

BRAIDED LINE – See Stranded Line. (WLOP)

BRAKE – A device used for retarding or stopping motion or holding. (Spec 2C)

BRAKE HORSEPOWER (BHP) – The horsepower output of an engine or motor measurable by a special brake or a dynamometer. (Bul D10)

BRAKE SHOE – That part of a shoe-type brake or clutch which makes contact with brake drum. (Spec 2C)

BRAKING CAPACITY – the load which the drawworks brake and auxiliary brake can retard to a constant reasonable speed, or hold. (Bul D10)

BRASS – An alloy of copper (60 percent or over) and zinc. (COGWE, SSWID)

BREAK CIRCULATION – To start movement of the drilling fluid after it has been quiescent in the hole. (Bul D11)

BREAK OUT – To unscrew one section of pipe from another section. (ITOGP)

BREAKING OUT PIPE – Operation of unscrewing of a pipe section. (RP 54)

BREAKOUT, OIL – Oil that has risen to the surface of the drilling fluid which previously had been combined in the fluid as emulsion. (Bul D11)

BREECHING – An extension of the firetube outside of the vessel which is being heated. The arrestor breeching serves as the attachment for the flame arrestor and surrounds the mechanical devices such as mixer, igniter, etc. (RP 12N)

BRIDGE – An obstruction in a well formed by intrusion of subsurface formations. (Bul D11)

BRIDGING – See Preferred term: Plugging. (Bul 13C)

BRIDGING MATERIAL –Fibrous, flaky, or granular material added to a cement slurry or drilling fluid to aid in sealing formations in which lost circulation has occurred. See Lost Circulation Material. (Bul 10C)

BRIDLE – See Floating Harness. (Spec 2C)

BRINE – Water that has a large quantity of salt, especially sodium chloride, dissolved in it. Salt Water. (ITOGP, WLOP)

BRINE – Water containing relatively high to saturation concentrations of common salt (NaCl) and relatively low concentration of other salts of calcium, magnesium, zinc, etc. (Bul 10C)

BRINE – Water saturated with or containing a high concentration of common salt (sodium chloride); hence, any strong saline solution containing such other salts as calcium chloride, zinc chloride, calcium nitrate, etc. (Bul D11)

BRING BOTTOMS UP – To wash rock cuttings from the bottom of the hole to the surface by maintaining circulation after halting the drilling operation. This allows time for the closer inspection of the cuttings and for a decision as to how to proceed when encountering a certain formation. (Bul 10C)

BRING IN A WELL – To complete a well and put it on production. (ITOGP)

BRINGING IN A WELL – The act of completing a well and bringing it into actual production status. (Bul 10C)

BROKEN THREAD – A thread tooth that exhibits a fracture through it, or that has a portion missing with its remaining surfaces having a broken appearance. (Bul 5T1)

BROMINE VALUE – The number of centigrams of bromine which are absorbed by 1 g of oil under certain conditions. This is a test for the degree of unsaturatedness of a given oil. (Bul D11)

BRONZE – An alloy of tin (usually under 12 percent) and copper. Frequently used as a name for brass. (COGWE, SSWID)

BROWNIAN MOVEMENT – Continuous, irregular motion exhibited by particles suspended in a liquid or gaseous medium, usually as a colloidal dispersion. (Bul D11)

BS OR BS&W – Common abbreviation used for base sediment, or base sediment and water. (Bul D11)

BS&W – This term refers to basic sediment and water and is commonly used as a measure of treating performance. Treating performance is highly variable, but most crude oils are treated to a range of 0.2 to 3.0 percent BS&W. ASTM Standard Test No. D96-82 entitled Water and Sediment in Crude Oils is an accepted standard for this test. (Spec 12L)

BS&W – Basic sediment and water. Water and other foreign matter in crude oil produced. This must be reduced to a very small percentage before delivering to crude purchaser. (WT)

BTU (BRITISH THERMAL UNIT) – A measure of the heating value of a fuel. (ITOGP)

BUBBLE CAP – A metal cap designed with openings to cause the upward-flowing gas “bubbles” in a gas-processing tower to intimately contact downward-flowing liquids, causing some of the gas to condense to liquid. Bubble caps are mounted on a perforated-steel BUBBLE-CAP TRAY. (ITOGP)

BUBBLE POINT – The state of a liquid-phase system when it is in equilibrium with an infinitesimal amount of vapor phase. (RP 44)

BUBBLE-POINT PRESSURE – The fluid pressure in a system at its bubble point. (Often used interchangeably with “saturation pressure.”) (RP 44)

BUCK UP – To tighten a threaded connection. (ITOGP)

BUCKLE – A distortion, bend, or kink. (Bul D20)

BUFFER – Any substance or combination of substances which, when dissolved in water, produces a solution which resists a change in its hydrogen ion concentration upon the addition of acid or base. (Bul 10C, Bul D11)

BUFFER CAPACITY – The ability of a solution to maintain a definite pH when subjected to the action of certain chemicals. (Bul D11)

BUILD ANGLE – The act of increasing the inclination of the drilled hole; the rate of change (degrees/100 ft.) of the increasing angle in the hole. (Bul D20)

BUILD-AND-HOLD WELLBORE – A wellbore configuration where the inclination is increased to some terminal angle of inclination and maintained at that angle to the specified target. (Bul D20)

BUILDUP – That portion of the hole in which the inclination angle is increased; rate of buildup is usually expressed as the angular increase per 100 feet of measured depth. (Bul D20)

BULKHEAD – Stiffened vertical or horizontal load bearing diaphragm. (RP 2T)

BULL GEAR – See Swing Gear. (Spec 2C)

BULL PLUG – A threaded nipple with a rounded, closed end used to close a wellhead or flowline opening or close off the end of a line. (WLOP)

BULLHEAD SQUEEZE – The process by which hydraulic pressure is applied to a well to force fluid such as cement outside the wellbore. Annular flow (returns) is prevented by a packer set in the casing above the perforation and/or in open hole. (RP 57)

BUMP A WELL (BUMP DOWN) – To lower a sucker-rod string on a pumping unit so that the pump hits bottom on the downstroke. (ITOGP)

BUMPER JAR – See Jar. (WLOP)

BUOYANCY – Buoyancy devices or flotation added to the riser joints to reduce their submerged weight. (RP 2R)

BUOYANCY EQUIPMENT – Devices added to tendon or riser joints to reduce their weight in water, thereby reducing top tension requirements. The devices normally used for risers take the form of syntactic foam modules or open-bottom air chambers. (RP 2T)

BURNER SYSTEM – Firing the heater requires a burner system designed for the specific fuel to be used and may be either natural or forced draft design. When multiple U-tubes are used, they should be designed to use separate burners, pilots and stacks. The burner system includes the firing accessories, intake flame arrestors and other optional burner accessories. (Spec 12K)

BURR – A localized point of roughness, or a thin ridge or protrusion, produced by mechanical damage or in machining the thread or chamfer. (Bul 5T1)

BUTT-WELDED PIPE (INCLUDING CONTINUOUS-WELD PROCESS) – Pipe having one longitudinal seam formed by mechanical pressure to make the welded junction, the edges being furnace heated to the welding temperature prior to welding. (Spec 5L)

BWPD – Barrels of water per day

BYPASS – Usually refers to a pipe connection around a valve or other control mechanism. A bypass is installed in such cases to permit passage of fluid through the bypass line while adjustments or repairs are made on the control which is bypassed. (RP 54)

-C -

C-AXIS – The principal crystallographic axis perpendicular to the direction of growth. (Bul 2N)

CAB – An enclosure for the operator and the controls for machine operation. (Spec 2C)

CABLE –

Impervious Sheathed Cable – Cable constructed with an impervious metallic or nonmetallic overall covering that prevents the entrance of gases, moisture or vapors into the insulated conductor or cable.

Jacketed Cable – Cable with a nonmetallic protective covering.

Marine Cable – Same as shipboard cable.

MC Cable – Metal-clad cable as defined by Article 334 of the NEC.

MI Cable – Mineral-insulated metal-sheathed cable as defined by Article 330 of the NEC.

MV Cable – Medium voltage solid dielectric insulated conductor or cable rated 2001 to 35000 volts as defined by Article 326 of the NEC.

Shipboard Cable – Cable constructed in accordance with IEEE Std. 45.

SNM Cable – Shielded nonmetallic-sheathed cable as defined by Article 337 of the NEC.

TC Cable – Power and control tray cable as defined by Article 340 of the NEC. (RP 14F)

CABLE – A flexible electrical conductor. (Spec 2C)

CABLE SEAL – A cable terminator filled with compound and designed to contain an explosion in the enclosure to which it is attached. A conduit seal may also be used as a cable seal. (RP 14F)

CABLE-TOOL DRILLING – A method of drilling a well by allowing a weighted bit at the bottom of a cable to fall against the formation being penetrated. See Rotary Drilling. (Bul 10C)

CABLE-TOOL DRILLING – A method of drilling a well by allowing a weighted bit at the bottom of a cable to fall against the formation being penetrated. See Rotary Drilling. (Bul D11)

CAGE – The part of a pump valve which holds the ball to limit its movement. (ITOGP)

CAKE CONSISTENCY – According to API RP 13B, such notations as “hard,” “soft,” “tough,” “rubbery,” “firm,” etc., may be used to convey some idea of cake consistency. (Bul 10C, Bul D11)

CAKE, FILTER – See Filter Cake. (Bul 10C)

CAKE THICKNESS – The measurement of the thickness of the filter cake deposited by a drilling fluid against a porous medium, most often following the standard API filtration test. Cake thickness is usually reported in 32nd of an inch (0.794 mm). See Filter Cake and Wall Cake. (Bul 10C, Bul D11)

CALCAREOUS COATING – A chalky coating of calcium carbonate and/or magnesium hydroxide. (COGWE, SSWID)

CALCIUM – An alkaline earth element with valence of 2 and an atomic weight of about 40. (Bul 10C)

CALCIUM – One of the alkaline earth elements with a valence of 2 and an atomic weight of about 40. Calcium compounds are a common cause of the hardness of water. It is also a component of lime, gypsum, limestone, etc. (Bul D11)

CALCIUM ALUMINATE CEMENT – The product obtained by pulverizing clinker which consists of hydraulic calcium aluminates formed by fusing or sintering a suitably proportioned mixture of aluminous and calcareous materials. (Bul 10C)

CALCIUM CARBONATE (CaCO_3) – A slightly soluble calcium salt (limestone, oyster shells, etc.) sometimes used as a weighting material, and also as a standard unit for expressing hardness of water. (Bul 10C)

CALCIUM CARBONATE (CaCO_3) – An insoluble calcium salt sometimes used as a weighting material (limestone, oyster shell, etc.), in specialized drilling fluids. It is also used as a unit and/or standard to report hardness. (Bul D11)

CALCIUM CHLORIDE (CaCl_2) – A highly soluble salt which imparts special properties to drilling fluids, but primarily to increase the density of the fluids and to accelerate the hydration reaction of cement and water. See Accelerator. (Bul 10C)

CALCIUM CHLORIDE (CaCl_2) – A very soluble calcium salt sometimes added to drilling fluids to impart special properties, but primarily to increase the density of the fluid phase. (Bul D11)

CALCIUM CONTAMINATION – Dissolved calcium ions in sufficient concentration to impart undesirable properties to a drilling fluid. (Bul 10C)

CALCIUM CONTAMINATION – Dissolved calcium ions in sufficient concentration to impart undesirable properties in a drilling fluid, such as flocculation, reduction in yield of bentonite, increase in fluid loss, etc. See also Calcium Sulfate, Gyp, Anhydrite, Lime, Calcium Carbonate. (Bul D11)

CALCIUM HYDROXIDE [$\text{Ca}(\text{OH})_2$] – The active ingredient of slaked lime and also a hydrolytic constituent of Portland cement. In field technology it is called “lime.” (Bul 10C)

CALCIUM HYDROXIDE – $\text{Ca}(\text{OH})_2$ – The active ingredient of slake lime. It is also the main constituent in cement (when wet). This material is referred to as “lime” in field terminology. (Bul D11)

CALCIUM SULFATE – Anhydrite (CaSO_4), gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$), hemihydrate ($\text{CaSO}_4 \cdot 1/2 \text{H}_2\text{O}$), or combination of these. (Bul 10C)

CALCIUM SULFATE – Anhydrite: CaSO_4 ; plaster of paris; ($\text{CaSO}_4 \cdot 1/2 \text{H}_2\text{O}$); gypsum: $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. Calcium sulfate occurs in drilling fluids as a contaminant or may be added to certain drilling fluids to impart special properties. (Bul D11)

CALCIUM-TREATED MUDS – Drilling fluids to which quantities of soluble calcium compounds have been added or allowed to remain from the formation drilled in order to impart special properties. (Bul 10C, Bul D11)

CALCULATION METHODS – Refer to “Wellborne Survey Calculation Methods.” (Bul D20)

CALCULATION SHEET – Refer to “Wellbore Survey Calculation Methods.” (Bul D20)

CALENDAR YEAR – The period of time from Jan. 1 to Dec. 31, inclusive (Bul T-5)

CALIBRATION – The adjustment of instruments, prior to use, to a known basic reference often traceable to the National Bureau of Standards. (RP 5A5)

CALIBRATION – Comparison and adjustment to a standard of known accuracy. (Spec 6A, Spec 16A, Spec Q1)

CALIBRATION – Measurement correction by comparison to a standard of known dimension. (WT)

CALIPER LOG – A record of the diameter of the wellbore or the internal diameter of tubular goods. The log indicates undue enlargement of the wellbore due to caving, washout, or other causes. (WLOP)

CALIPER SURVEY (LOG) – A well log which measures hole diameter. Also called “section gauge” logs which are made from tools with many “fingers” used to measure the corrosion of casing and tubing. (Bul 10C)

CANT ANGLE – Orientation of sound beam relative to axis of member. (RP 2X)

CAPACITY – See Related Terms: Feed Capacity, Liquid Capacity, Solids Discharge Capacity. (Bul 13C)

CAPACITY – Ability of a reservoir to receive water. (SSWID)

CAPACITY – Maximum throughput, maximum producing rate, or maximum content possible for a given set of conditions. (WT)

CAPACITY INDEX – An indication of the capacity of an injection well to take water. It is usually measured in barrels per hour per pound increase in bottom-hole pressure. (SSWID)

CAPACITY REDUCTION FACTOR (a_{ij}) – Coefficient which accounts for the effects of shape imperfections, non-linear behavior and boundary conditions (other than classical simply supported) on the buckling capacity of the shell. (Bul 2U)

CAPILLARY WATER RISE – The rise of water in a loosely compacted material such as a sand fill, due to capillary forces. (COGWE, SSWID)

CAPITAL INVESTMENT – Funds spent to acquire additions to assets for the betterment of the operation. Depreciation is taken on such expenditures rather than charging them off as expense or operating cost. (SSWID)

CARBON DIOXIDE (CO_2) – A colorless, odorless, nonpoisonous gas that is a normal part of the ambient air. Dissolved in the aqueous phase of drilling fluids, CO_2 may contribute to corrosivity of these fluids or to unstable rheological properties. (Bul D11)

CARCINOGEN – A substance or agent producing or inciting cancerous growths in living tissues. (Bul D11)

CASED HOLE – A wellbore in which casing has been run. (ITOGP)

CASING – Pipe used in wells to seal off the borehole. (Spec 6A)

CASING – Steel pipe used in oil wells to seal off fluids from the bore hole and to prevent the walls of the hole from sloughing off or caving. API casing sizes range from 4 ½ in. OD to 20 in. OD inclusive. (RP 5A5)

CASING – Pipe installed in the wellbore and usually cemented in place to retain the borehole dimension and seal off hydrocarbon and water-bearing formations. (RP54)

CASING – Steel pipe placed in an oil or gas well as drilling progresses. The function of casing is to prevent the wall of the hole from caving during drilling, provide control of the well if it tries to blow out, and limit oil or gas production to the zone perforated or open. (WLOP)

CASING CEMENTING – The practice of filling an annulus with cement slurry. (Bul 10C)

CASING FLOW – (Same as annular flow.) (GL)

CASING HANGERS (SLIPS) – A mechanism used to support a casing string in a casing head by gripping the pipe with wedge type members. (See Spec 6A)

CASING HANGERS, THREADED (MANDREL) – A mechanism used to support a casing string in a casing head by means of a male or female thread attached to the casing. (Spec 6A)

CASING HEAD HOUSING – Equipment attached to the uppermost end of the surface casing which serves to suspend and seal a casing string. (Spec 6A)

CASING HEAD SPOOL – Equipment attached to another casing head which serves to suspend and seal a secondary casing string. (Spec 6A)

CASING PRESSURE – Pressure built up in an annulus. (Bul 10C)

CASING PRESSURE – Pressure measured at a wellhead casing outlet. (ITOGP)

CASING PRESSURE – The pressured, measured at the surface, within the well casing. (GL)

CASING PRESSURE – The pressure built up in the annular space between casing strings, casing and tubing, or casing and drill pipe. (WLOP)

CASING STRING – The pipe run in a well, for example: surface string, intermediate string, production string, etc. (ITOGP)

CASINGHEAD – A heavy, steel, flanged fitting that connects to the surface string of casing and provides a housing for the slips and packing assemblies by which intermediate strings of casing are suspended and the annulus sealed off. (WLOP)

CASINGHEAD GAS – Associated and dissolved gas produced with crude oil; oil well gas. (ITOGP)

CASINGHEAD/SPOOL – The part of the wellhead to which the blowout preventer stack is connect. (RP 53)

CAST IRON – An alloy of iron and about 2 to 4 percent carbon.

A. Grey cast iron: The graphite (carbon) is present as flakes. This makes a fracture appear grey.

B. White cast iron: The carbon is present as carbides. With no graphite to color it, a fracture appears metallic white. (COGWE, SSWID)

CASTING – (1) An object at or near finished shape obtained by solidification of a substance in a mold; (2) Pouring molten metal into a mold to produce an object of desired shape. (Spec 6A, Spec 16A)

CATHEAD – A spool-shaped attachment on a winch around which rope is wound for hoisting and pulling. (ITOGP)

CATHODE – The portion of a corrosion cell which does not corrode. Reduction always occurs at cathode. (COGWE, SSWID)

CATHODE RAY TUBE (CRT) – A vacuum tube with a luminescent screen often used for viewing ultrasonic echo signals or for video readout of computer stored data. (RP 5A5)

CATION – The positively charged particle in the solution of an electrolyte which, under the influence of an electrical potential, moves toward the cathode (negative electrode). Examples are: Na^+ , H^+ , NH_4^+ , Ca^{++} , Mg^{++} , Al^{+++} . (Bul D11)

CATLINE – A hoisting or pulling line operated from a cathead. (ITOGP)

CATLINE, CATHEAD – Catline is a line powered by the cathead, which is a concave, rotating, pulley-type device mounted on the end of a shaft of the drawworks. Catlines are used to lift or pull equipment around a rig. (RP 54)

CAT WALK – A narrow walkway. (ITOGP)

CATWALK – Elongated platform adjacent to the rig floor where pipe is laid out and lifted into the derrick. The catwalk is connected to the rig floor by a pipe ramp. (RP 54)

CAUSTIC OR CAUSTIC SODA – See Sodium Hydroxide. (Bul 10C, Bul D11)

CAVE-IN – See Sloughing. Cave-in is a severe form of sloughing. (Bul D11)

CAVERNOUS FORMATION – A formation having voluminous voids. (Bul 10C)

CAVERNOUS FORMATION – A formation having voluminous voids, usually the result of dissolving by formation waters which may or may not be still present. (Bul D20)

CAVING – Collapse of the walls of the wellbore: falling in of the material surrounding the borehole; sloughing. (Bul D20)

CC OR CUBIC CENTIMETER – A metric system unit for the measure of volume. It is essentially equal to the milliliter and commonly used interchangeably. One cubic centimeter of water at room temperature weighs approximately 1g. (Bul D11)

CELLAR – A hole dug, usually before drilling a deep well, to allow working space for the casinghead equipment. (ITOGP)

CELLAR – Excavation around the wellhead to provide space for items of equipment at the top of the wellbore. It also serves as a pit to collect drainage of water and other liquids. (RP 54)

CEMENT –

API Classes – Cement (Classes A through J) meeting the applicable requirements of API Spec 10.

ASTM Types – Cement (Types I through V) meeting the applicable requirements of Standard Specifications for Portland Cement ASTM C150.

Common, Regular or Ordinary – A cement intended for use under conditions not requiring moderate to high sulfate resistance. Corresponds to API Class A or Class C which are similar to ASTM Type I or Type III cements, respectively.

Construction – See Common, Regular or Ordinary.

Gel Cement – A cement or cement slurry that has been modified by the addition of bentonite.

Gypsum Cement – Composed primarily of the hemihydrate form of calcium sulfate, $\text{CaSO}_4 - 1/2\text{H}_2\text{O}$ (Plaster of Paris)

High Alumina – See Calcium Aluminate Cement.

High Early – (a) – API Class C cement; (b) ASTM Type III cement.

High Temperature – A cement designed to overcome strength retrogression within the temperature limits designated by the supplier.

Hydraulic Cement – A cement that sets and hardens by chemical interaction with water and that is capable of doing so under water.

Modified Cement – A cement whose properties, chemical or physical, have been altered by additives. This term has been used to refer to specific formulations of gel cement containing certain concentrations of dispersing agent.

Neat – A cement paste or slurry containing no additives.

Well – Cement or mixture of cement with other materials that is intended for use in oil, gas, geothermal or water wells.

Ordinary – See Common, Ordinary or Regular Cement.

Portland – Hydraulic cement produced by pulverizing clinkers consisting essentially of hydraulic calcium silicates and usually containing one or more of the forms of calcium sulfate as an interground addition.

Portland-Blast Furnace Slag – An intimate and uniform blend of Portland cement (or clinker) and fine granulated blast furnace slag in which the amount of slag is within specified limits.

Portland-Pozzolan – A hydraulic cement consisting of an intimate and uniform blend of Portland cement or portland blast furnace slag cement and fine pozzolan produced by intergrinding portland cement clinker and pozzolan, by blending portland cement or portland blast furnace slag cement and finely divided pozzolan, or a combination of intergrinding and blending, in which the amount of the pozzolan constituent is within specified limits.

Regular – See Common Ordinary or Regular Cement.

Retarded Cement – A cement in which the thickening time is extended by adding a chemical retarder.

Slag Cement – See Granulated Blast Furnace Slag.

Slow-Set Cement – A cement in which the thickening time is extended by (1) eliminating the rapid hydrating components in its composition or (2) by adding a chemical retarder. API Classes D, E, and F are slow-set cements.

Sulfate-Resistant Cement – Cements which meet applicable requirements of API Spec 10.

Weighted Cement – A cement slurry containing additives to increase its normal density. (Bul 10C)

CEMENT – A mixture of calcium aluminates and silicates made by combining lime and clay while heating. Slaked cement contains about 62.5 percent calcium hydroxide, which is the major source of trouble when cement contaminates drilling fluids. (Bul D11)

CEMENT ADDITIVES – See Additive. (Bul 10C)

CEMENT BOND LOG – A well log of the vibrations of an ultrasonic acoustical signal as it passes through a four phase system of fluid, pipe, cement and formation. If the pipe is not acoustically coupled tightly with a dampening material such as cement, very little energy of the acoustical signal is lost. If the cement is bonded or acoustically coupled tight to the pipe, the energy is extremely dampened and the signal nearly disappears, thereby indicating that the casing is well cemented. The log may consist of (1) a collar log, (2) a transit time curve recording the time of the first arrival of the acoustical signal, (3) an amplitude curve which represents the amplitude of a selected portion of the acoustical wave, and (4) a display of the acoustical wave as x-y signatures or a variable density version of the signatures. (Bul 10C)

CEMENT DENSITY – The specific gravity of a well cement as determined by a method similar to ASTM C 188: Test for Density of Hydraulic Cement. Most portland cements have a specific gravity of about 3.15 when tested by this method. Cement density should not be confused with slurry density. (Bul 10C)

CEMENT DUMP BAILER – A cylindrical container with a valve that is used to release small batches of cement downhole in a remedial cementing operation or for other special purposes. (WLOP)

CEMENT PLUG – A portion of cement placed at some point in the wellbore to effect a sealing action. (WLOP)

CEMENT SYSTEM – The combination of materials which make up well cement formulations. (Bul 10C)

CEMENTATION – The binding or cementing together of unconsolidated particles. (SSWID)

CEMENTING – The process of pumping a cementitious slurry into a well through steel pipe to critical points in the annulus or open hole. Cementing is performed to isolate different zones in the well, protect the pipe from corrosive fluids, support the pipe in the hole, or repair previous cement jobs. (Bul 10C)

CEMENTING – The act of making cement into a slurry and pumping it into a wellbore to perform functions such as supporting casing, isolating formations behind casing, protecting fresh water sands, and sealing perforations in casing. (RP 54)

CEMENTING TIME – The total elapsed time for a cementing operation from the beginning of mixing until the completion of displacement to final depth and complete circulation of any excess slurry to the surface. (Bul 10C)

CENTER PIN (KING PIN) – Vertical pin or shaft which acts as rotation centering device and connects revolving upperstructure and base mount. (Spec 2C)

CENTER POST (KING POST) – A tubular member which acts as the centerline of rotation and as the connective member to the platform. (Spec 2C)

CENTIPOISE (CP) – A unit of viscosity equal to 0.01 poise. A poise equals 1 g per meter-second, and a centipoise is 1 g per centimeter-second. The viscosity of water at 20C is 1.005 cp (1 cp = 0.000672 lb/ft-sec). (Bul D11)

CENTIPOISE – Unit for measuring viscosity; 0.01 poise. (SSWID)

CENTRAL CONDUCTOR (SHOOTING ROD) – A conductor that is passed through the pipe, for the purpose of creating a circular or circumferential magnetic field in the pipe. This term does not imply that the current rod must be centered in the pipe. (RP 5A5)

CENTRALIZERS – Guides which are attached to casing and which serve to keep it centered in the hole. See API Spec 10D. (Bul 10C)

CENTRATE – Clarified liquid discharged from a centrifuge. (Bul D11)

CENTRIFUGAL FORCE – That force which tends to impel matter outward from the center of rotation. (Bul 13C)

CENTRIFUGAL FORCE- Force tending to pull outwardly on a body when it is rotating around a center. (Bul D20)

CENTRIFUGAL SEPARATOR – A general term applicable to any device using centrifugal force to shorten and/or to control the settling time required to separate a heavier mass from a lighter mass. (Bul 13C)

CENTRIFUGE – A centrifugal separator, specifically: a device rotated by an external force for the purpose of separating materials of various specific gravities and/or particle sizes or shapes from a slurry to which the rotation is imparted primarily by the rotating containing walls. (Bul 13C)

CENTRIFUGE – A device for the mechanical separation of high specific gravity solids from a drilling fluid. Usually used on weighted fluids to recover weight material and discard drill solids. The centrifuge uses high-speed mechanical rotation to achieve this separation, as distinguished from the cyclone-type separator in which the fluid energy alone provides the separating force. See Cyclone and Desander. (Bul D11)

CENTRIFUGE – A shake-out or grind-out machine. Samples of oil are placed in the machine and whirled at high speed to settle out sediment. BS&W content can be determined in this matter. (ITOGP)

CENTRIPETAL FORCE – See Related Term: Centrifugal Force. That force which tends to propel matter inward. (Bul 13C)

CHAMBER LIFT – A special type of intermittent gas lift which uses the tubing-casing annulus or a “bottle” on the end of the tubing string for the accumulation of formation liquids between cycles. (GL)

CHAMFER – The tapered area on the end of threaded pipe or coupling (eight round or buttress threads). (RP 5A5)

CHAMFER – A conical surface at the end of the pipe. (RP 5B1)

CHASE THREADS – To straighten and clean threads of any kind. (ITOGP)

CHATTER – A wavy surface of the thread flank, root, crest, or chamfer, produced by a vibrating cutter insert. (Bul 5T1)

CHEATER – A length of pipe used to increase the leverage of a wrench. (ITOGP)

CHECK VALVE – A valve that permits flow in one direction only. (ITOGP, WLOP)