

- (b.) The number or other designation by which such well shall be known.
- (c.) The owners' or operators' estimate of the depth of the point at which water will be shut off, together with the method by which such shut-off is intended to be made, and the size and weight of casing to be used.
- (d.) The owners' or operators' estimate of the depth at which oil- or gas-producing sand or formation will be encountered.

The foregoing provisions shall also apply so far as may be to the deepening or redrilling of any well, or any operation involving the plugging of any well, or any operations permanently altering in any manner the casing of any well.

205. All wells shall be so situated as regards distance from boundaries of property, from other wells or boreholes, gas-meters and buildings as may be required by an Inspector in writing.

#### *The Surface.*

206. If required by the Inspector, that part of the drilling-area containing the derricks and engines and boilers shall be fenced. Sufficient gates shall be provided to give free egress for the workmen in case of emergency, and no timber or inflammable material shall be used in the construction of fences or gates. Holes, abandoned wells, or other excavations shall be filled up level with the surrounding surface, and, where necessary, shall be protected with a fence 5 ft. high. The boundaries of unfenced well operations shall be marked in a conspicuous manner. Wells which are only stopped temporarily, water-wells, mud, oil, and residue pits shall be adequately protected.

207. No persons other than those actually engaged therein shall come within the enclosed or fenced portion of well operations.

208. A conspicuous notice-board to the above effect shall be continuously exposed at all entrances to enclosed places.

209. Mud and oil from a well shall not be allowed to flow over the surface, but shall be collected in suitably arranged tanks or pits. All tanks or pits for oil, or for mud containing oil, shall be covered with waterproof material and fenced.

210. The boring-area shall always be kept clean. The removing of oil from any tank shall be carried out in such a manner that the spilling of oil over the surface of the ground is prevented. The surface-earth which has been saturated with oil shall be removed or covered with dry earth.

211. Oil or other objectionable matter shall be prevented from running into rivers or streams.

212. Oil from outbursts, or from well operations where outbursts are probable, shall not be retarded by casing-heads, and carried away by ordinary channels, but there shall be constructed near the derrick a pit or pits of adequate capacity for such oil, which shall be conveyed thereto through fire-proof covered trenches, channels, or pipes, to prevent pollution of the surrounding surface.

213. No hot iron, naked light, matches, or other appliance for the production of fire or for smoking shall be taken into the derrick and buildings connected thereto, or into places in which oil is exposed, used, or handled.

214. The use of firearms, the making of open fires, and the stacking of inflammable material shall not be permitted within the fenced area of well operations, or in any building or enclosed places used in connection therewith.

215. No artificial light, other than an electric safety-lamp of type permitted by the Inspector, shall be taken into the buildings where oil is handled, treated, or distilled.

216. There shall be provided and maintained at all productive well operations and in the vicinity of all oil intended for sale or commercial use fire-extinguishing appliances, also shovels, axes, sand, and water, immediately available to extinguish fire.

#### *Buildings and Installations.*

##### THE DERRICK AND ADJOINING BUILDINGS AND INSTALLATIONS.

217. The derricks and buildings connected therewith, also the machinery and tools for drilling, shall be of good material and strongly and securely erected. No other building but that covering the drill plant and stationary drilling-engine shall be attached to or in proximity to a derrick.

218. Except with the previous consent of the Minister, timber shall not be used in the construction of any derrick, except for the framework. This regulation shall not apply to the buildings existing at the time these regulations come into operation.

219. The derrick shall be securely guyed by strong wire rope, or otherwise adequately supported.

220. Galleries shall be constructed within the derrick, having a railing 3 ft. high and a footboard. Ladders leading to such galleries shall be of adequate strength, strongly secured and maintained in good repair.

221. There shall be provided in each derrick opposite the highest gallery a window which opens to the outside, and in front of this window, on the outside of the derrick, there shall be constructed and maintained a platform having a

railing 4 ft. high, to which suitable ladders shall be connected to provide the workmen engaged in the top of the derrick with adequate means of escape in cases of emergency.

222. The buildings over the drilling plant and machinery shall be of adequate dimensions to allow safe access to all working-places.

223. The floors of the derrick and engine-house shall be sanded, to prevent workmen from slipping.

224. If drilling-rods are placed on a table or rack it shall be provided with an arrangement for preventing them from falling therefrom.

225. Operations at gushing or extremely gaseous wells shall not be permitted unless adequate provision is made for the immediate closing of the well by a blowout preventer or capping, which will also permit the removal of the oil and gases into storage-tanks.

226. All operations to recover lost drilling-tools from any well where unusual force is being used in turning the rods or tubes shall be carried out under the direct supervision of the manager. The use of more than one lever fastened to the rods or tubes, and the use of keys, is prohibited during operations for such recovery. In all heavy and dangerous work with the pulley-blocks, and also during the so-called racing of the engine, the presence in or near the derrick of persons other than the driller and the workmen assigned to the work by the driller is prohibited. The manager shall give great attention to the work when pulley-blocks or screw-jacks are being used. When working with screw-jacks, precautions must be taken to prevent the parts from flying about in the event of the breakage of the rods.

227. The walking-beam shall be so balanced that it may be lowered easily by hand after the drilling-rods have been unscrewed. Under the walking-beam on the well side of the drill there shall be fixed a post to protect the workmen in the event of the breakage of the pitman.

228. The brake-bands of the rig shall be of suitable dimensions, and shall be manufactured in such a way that with ordinary care sparks will not be produced. For this purpose the brake-bands shall be lined with vulcanized fibre or other material which will not emit sparks.

229. Tools shall not be raised with a Canadian slipper-out during the movement of the walking-beam. The steel wheel shall be provided with a double dog.

230. No engine other than a stationary engine shall be used when drilling by steam-power.

##### BOILER-HOUSES AND BOILERS.

231. Every boiler-house shall be so situated that the prevailing wind will divert inflammable gas therefrom. Every boiler-house shall be securely roofed with non-inflammable material. This regulation shall not apply to any boiler-houses existing on the 3rd August, 1915.

232. Boiler-houses shall be of adequate dimensions to permit safe and convenient access to all parts of the boiler.

233. Between the firebox and the nearest end of the boiler-house there shall be a clear space of at least 6 ft. The floor of the boiler-house shall not be constructed of inflammable material.

234. The roof around the boiler-chimney shall be constructed of sheet iron for a distance of 2 ft. from such chimney. Between the boiler-chimney and the roof of the boiler-house there shall be a sheet-iron pipe, which shall project above the roof. The chimneys of portable boilers shall be at least 26 ft. high, and of sufficient diameter to allow the escape of smoke. All chimneys shall be provided with approved covers and spark-arresters, which shall be frequently cleaned from soot.

235. In the event of a dangerous outburst of oil or gas the stoker shall first shut the door of the boiler-house, then shut off the supply of oil or gas to the firebox, and close the doors of the firebox and of the ashbox, and finally extinguish the ordinary light, if one be used. Withdrawal of the fire and its extinction with water is prohibited.

236. In the event of an outburst of oil or gas possessing extraordinary force, the manager, or if he is not present the next in authority, shall blow off the boiler, and notify the Inspector of such occurrence, who shall, as soon as possible issue such directions as he deems advisable for safety.

237. Ashes from any ashbox shall be completely extinguished before removal from the boiler-house.

##### OTHER BUILDINGS AND MACHINERY.

238. Offices shall be provided at all well operations, but the Inspector may, if he considers it desirable, permit one office for several well operations under the same proprietary if such operations are not separated by too great a distance.

239. Buildings at measuring-stations shall be at least 33 yards distant from any smithy, boiler-house, dwelling-house, workmen's rooms, offices, or public roads, and shall be adequately ventilated.

240. Every oil-pumping station shall be at least 50 ft. away from any dwellinghouse, smith-shop, or public road. This