

all located along these lines of weakness and he claims at the intersection of two of these lines where a still weaker point was determined "admitting the upward passage of fluids or gas under pressure from below;"—but Mr. Harris is still under a similar impression as Mr. Robert T. Hill was (⁴⁴), namely:—that these gaseous and liquid substances are carried to these salines by artesian waters entering the pervious layers of the Mesozoic or Paleozoic far up country and going down to greater and greater depths as the latitude of the gulf border is approached to ascend under hydrostatic pressure at the above mentioned points of weakness. As I have pointed out twice before (⁴⁵), several years ago, the pressure to which the fluids under the salines are subjected is not hydrostatic and it is also impossible for meteoric waters to gather and carry down from sediments the diversified products of these salines especially insoluble liquid hydrocarbons and such gases as natural gas and hydrogen sulphide. Permit me to recall here the explanation of the nature of these salines which I gave before this Institute six years ago (⁴⁶):—"But, on this continent, in the newly discovered oil-fields of Texas and Louisiana, we have many no less direct evidences of vulcanism, though they do not appear to have been understood in their true light. These are the salt islands and the mounds of the Coast-Prairie such as the famous 'Spindletop' near Beaumont, which are clearly nothing else but 'sulfionis' or 'salses' hardly extinct yet, grouped along fractured lines and marking in that region the dying out of vulcanicity, that is to say the dying, distant echo of that tremendous volcanic energy which, a little further south, in Mexico, Central America and in the islands and along the south coast of the Caribbean Sea, is to this day so powerfully active." When these occurrences of petroleum in the Texas-Louisiana salines are considered in the light of what is now being found a little further south along the gulf-coast plain in the new oil-fields of Mexico, where, as noticed above, the oil is found around volcanic necks, it can be seen that the view which I took six years ago that these salines were regular solfataric volcanic vents was the right one;—in the Mexican oil-fields the volcanic action has been a little more intense and instead

44. Trans. Am. Inst. Min. Eng., XXXIII, 363.

45. Journ. Can. Min. Inst., Vol. VI, p. 93 and Trans. Am. Inst. Min. Eng., Vol. XXXV, pp. 292, 293.

46. Journ. Can. Min. Inst., Vol. VI, p. 89.