Virgin River Oil Fields of Washington County, Utah

stund out promismitly in the bloory of southern (linh as marking the beginning of an era of ell and gas development that bids fair to make the State of Utah the "Penniplyania of the West." On that date the Virgin River Oll and Development company, the pioneer company in the field, brought in a well with upwards of 200 barrel production of the highest petroleum in the west-with the possibile exception of Spring Valley, Wyo., oil

Iminediately the news of this off striam was heralded through the country a grand rush was made into the new field by hundreds of men who realized what a discovery of petroleum really meant.

The press of Utah, Nevada and Callformin had devoted comsiderable space to the possibilities of the Virgin river valley as an oil producer prior to this discovery, experienced experts of continental experience had reported often and favorably on it, but It was not until a few daring investors of Rhyoille. Nev., who had the courage of their convictions, had actually drilled a producing well that any serious attention was given the district by capital.

The remarkable record made by the Virgin River Gil and Dovelopment company in bringing in a producing well within 30 days from the time the machinery was shipped from Callfornia notwithstanding delays in securing derrick, lumber and cordwood, was a big surprise to those on the inside who were watching with eagerness the result of the venture.

BEGINNING OF THE RUSH. Men prominent in the oil industry of the continent visited the field within xt 10 days. They made an exhaus in examination of the field and the surplumiling country with the resuit that mode than \$1,000 worth of drilling machinery has been hurried into the field within the past four months and active arilling operations started throughout the valley.

In accordance with the progressive policy of the first company, their expert was sent to Los Angeles early in August to purchase two additional drilling rigs, with instructions to have them on the ground at the earliest possible moment. These rigs were located on the ground and ready for construction early in September.

The company also hurried a complete pumping outfit in with a view to supplying fuel for its future drilling operations and also for a score of other companies who were rapidly coming forward to prospect their various hold-ings in the field.

FUEL PROBLEM SOLVED.

On Sept. 10 the company had over 200 barrels of oil stored in tanks ready for delivery to the different operators throughout the field, thus solving the fuel problem which had been a serious one with the ploneer company.

Next in line of development came moted by J. R. Clark of Salt Lake City, a well known mining operator in Utah and Nevada. Mr. Clark had no dif- business equipment to make the new culty in securing sufficient means in town a live one.



west as a mining man, early in September, placed its first machinery in the field in the southeast quarter of section 32, township 40 south, range 11 west, a few miles ahead of development, on North Creek. This company has reached a depth of 450 feet and is pushing work vigorously. Inadvertent accidents to their drilling machinery have hindered the work, but the policy of the company is to explore the ground at depth and everything possible to that end is being done.

GOLDFIELD VIRGIN.

The Goldfield-Virgin Oil company, at whose head is Frank Bonneau and "Capt." Johns, two well known capitalists of Goldfield, Nevada, located their No. 1 well on the southeast quarter of section 22, just outside the limits of the city of Virgin. They have secured control of a considerable acreage of oil land in different parts of the field, and in addition to the development of oil, the promoters, with keen business foresight, have platted a new townsita on their holdings immediately north of the Dixie Oil and Land company, pro- | the old town of Virgin. They propose to establish an up-to-date mercantile house, bank, hotel and other necessary

Sait Lake to put his company on a Their No. 1 well has been sunk 450 safe business basis. This company feet at which depth a considerable flow controls several thousand acres of oil of gas was met with. Unfortunately, land in different parts of the field and a broken stem has caused a tem-

PROPERTIES OF VARIOUS OIL COMPANIES IN THE FIELD. Vinter

The annexed sectional map, shows the locations of the different wells in the field and the different companies owning and controlling 1 well, Virgin River Oll and Development company, (first well

No. 2 well, Virgin River Oll and Development company.

No. 3 well, Virgin City Oll company.

No. 5 well, Kern-Utah Oil company.

No. 14 well, Mammoth Oll company,

No. 16 well, Arizona-Utah Oil company.

No. 6 well, Goldfield-Virgin Oil company,

No. 7 well, Southern Utah Oll company,

No. 8 well, Star-Crescent Oll company.

No. 9 well, Miller-Hickey-Lambert company.

No. 10 well, Paraffin-Virgin Oil company.

No. 11 well, Martin Development company,

No. 13 well. Los Angeles-Utah Oll company.

No. 15 well, Bakersfield-Virgin Oil company,

No. 12 well, Virgin River Parafin. Oil company,

No. 4 well, Dixie Oil and Land company.

570 fost was reached.

At this depth a discovery of oil was made, thus giving the Star-Crescent company the distinction of being the second producer in the field.

The actual production of this well cannot be stated at this time, as the entire oil bearing strata has not been cut. It is safe to say, however, that this well will equal, at least, the production of the V. R. O. & D. Co.'s No. well, as indicated by the present showing.

The oil is of a light gravity-estimated at 30 to 25 degrees Baume.

SECOND LOCATION.

The second location made by the Virgin River Oil and Development company is on the southeast quarter of section 1, township 41 wouth, range 12 west, on North creek. Here the company commenced drilling its No. 2 well in the latter part of September. Good progress was made with the first few hundred feet of sinking, when a series of unfortunate mishaps seriously retarded the work. The greatest delay was caused by the breaking of a set of jars, which necessitated the placing of an order in Los Angeles for a special fishing tool to recover the broken parts.

DOWN 600 FEET.

This well is now down some 600 feet. and the indications at this depth give comise of a good oil production in the near future. The third well located in the field by the pioneer company, Virgin River Oil and Development company, is on the northeast quarter of section 14, immediately northwest from their No. 1 well This rig, together with a lease on the ground, was taken over by D. Mackenzle, a successful mining operator of Goldfield, Nevada, and associates, who organized the Virgin City Oil company. This company has drilled to a depth of 640 feet and has every indication of bringing in a producer within a short distance. At present development is being retarded for want of casine. The company will drill to a considerable depth with a view to exploring the lower oil bearing stratas. C. E. Wilcox, who successfully drilled the first well in the field, has charge of development work for this company.

pany has been incorporated its land holdings on North tree has located its first well or southeast quarter of section North creck. H. H. Blond, ef Pranciaco, a larga producar of the California fields, is at the heat this company. It is the pitch the Virgin River Paraffin Off on to put another rig in the field at SOME OTHERS.

The Mammoth Oil company losincorporated by Navada capitans develop ground your tailes south from Virgin, and machinery for dri will be on the ground aborily. Miner and Gilfillan will have

chinery on their ground in the set borhood of Grafton and Rocks within the next 30 days. Jofferies and Montgomery, of

Angeles, are sinking a well on say No. 1, township 43 south, range 12 r The hole has reached a depth of wards of 500 fest. The breaking a stem has delayed the work for time being.

ANALYSIS OF PRODUCT.

The off produced in the Virgin Rie field is a high grade refining of taining a large percentage of disc filuminating and pubricating of gravity is approximately in Baume. Some chemists giving al er gravity, others alightly less, base is parafine. The following a lysis is given by a coputable che of Salt Lake City: Cases and water -

minating aght lubri Heavy Jubricant Residuum

* Heavy signal and headlight ed. The above results by desillation. PRICE OF OIL LANDS.

Owing to the finmense ares of is field, some 10x15 miles, the prices oil land in the field has not rises extraordinary figures. Up to this y it has been possible at all times investors and operators showing be fide business intentions to see ground at from \$5 to \$25 per sone. cording to location; while many h ers of ground have accepted a prop tion of the stock of companies me porsted upon their holdings, thus show ing their faith in the success of

LUMBER PROBLEM.

The lumber problem, which is its early days of development greatly re tarded progress, is rapidly being solved and little delay will result in seather necessary timbers and lumber for de building in the future.

Local people have arranged to m dimension lumber as required from their patented lands on the Knist mountains, near by, while two enterprising business men, Messre Wher and Starr, have for the past tre months given their best efforts to es tablishing a lumber yard here to mp ply the demand for drilling rigs, bitsing in dry lumber, from the north and the south. The present price on rough lumber is \$55 per 1.000 feet.

FREIGHT DIFFICULTIES. The snormous task of freighting the

dreds of thousands pounds of ght from the railway into has taxed the capacity of local freight. ers to the utmost; but with the assisance of a few cutside teams, the conditions have, on the whole, been well met and little delay has resulted. The weather conditions in this part of the state have been exceptionally propitious this fall, and the roads are in excellent condition.

D. C. Porter, well known as successful mining men, early secured large holdings of oil land immediately north of the town of Virgin. The Southern Utah Oll company was

incorporated by these men to develop a portion of their ground. The first location made was on the southeast quarter of section No. 15, where a Star rig was installed early in November and active drilling begun. At a depth of 350 feet the breaking of a crank shaft necessitated a shutdown on this well. New parts have been received to replace the broken machinery and drilling will be resumed in a day or two. This company will put two more drilling rigs in the field within the next 20 days. The company is organized under the laws of Utah, with H. H. Clark, president; Bert L. Smith, vice president, and C. D. Porter, secretary-treas-

pany is in Sait Lake City. THE KERN-UTAH.

urer.

The Kern-Utah Oil company, organized under the laws of California. to develop its land holdings on North creek, adjoining the ground of the Virgin River Oll and Development company on the west, erected a standard rig on the northwest quarter of section 12 early in November. They have reached a depth of 350 feet, and in-

The home office of the com-

tend to explore to a considerable depth. A subsidiary company has been inrated by the Kern-Utah Co., to THE PARAFINE-VIRGIN.

will organize subsidiary companies to develop its extensive holdings.

DIXIE COMPANY.

The initial location of the Disie Oil and Land company was made on the southeast quarter of section 12, town ship 41 south, range 12 west, about three-quarters of a mlie northeast from V. R. O. & Co.'s No. 1 well, where a hole was drilled to a depth of nearly 800 feet. At the point it was deemed expedient by the directorate of the company to put in casing in the well and work was temporarily discontinued penalog the securing of this casing. Work will be pushed on the well at an early date. The policy of this company is to explore their ground at depth.

creation of the noted Harper Utah.

been incorporated throughout the field who have not yet definitely located their wells upon the ground. Lyman, vice president, and Robert LOS ANGELES-UTAH. Page, secretary-treasurer. The homa The Los Angeles-Utah Oil company. office of the company is in Cedar City, (Mayor) bunch of Los Angeles, at The company has upwards of 5,000 whose head is George Montgomery acres of land in different parts of the

porary shut-down, but it is expected In fald). that within a few day's drilling will have been resumed.

This company will drill a deep hole, disregarding the upper oil bearing strata for the present.

THE STAR-CRESCENT. In the early stages of the oil excite-

ment here two well known business men of Cedar City, Utah. Robert Page and Dr. Middleton, recognizing a business opportunity of great possiblittles, secured a considerable lot of ground in the heart of the field. With characteristic business enterprise they immediately organized a company to develop the ground, and the Star-Crescent Oll company was incorporated with Dr. Middleton, president; Oscar

addition to the one now operating, at on the southeast quarter. Drilling operan oaily date. ations were commenced on the first of The first location of the Star Cres-October, and, except for inadvertent cont Oil company was made on section delays caused by minor accidents, was ("Monty"), well known throughout the field. They will install several rigs in 4 10, township 41 south, range 12 west, 1 prosecuted vigorously until a depth of 1

SOUTHERN UTAH COMPANY.

develop a portion of its ground lying southeast of Virgin, and machinery will be placed on this ground at an early date. This sub company will be known as the Bakersfield-Virgin Oil Co. The home office of this company is in Bakersfield. California,

The Paraffin-Virgin Oil company, headed by Rhyolite and Goldfield capitalists, is sinking a well on the northwest quarter of section No. 28, about one mile northeast from Virgin. They commenced drilling Dec. 1. The Arizona-Utah Oil company is recting machinery two miles north

of Grafton. They will commence drilling before this is printed. The Martin Development company,

backed by Los Angeles and Bakersfield capitalists, among whom Dave Martin, an expert of wide experience, is the leading spirit, is erecting drilling machinery on the northeast quarter of section No. 6, on North creek. Drilling will be commanced H. H. Clark, ("Bullfrog Clark") and by this company this week.

FAST STAGE LINE.

A fast stage line has been put on between Lund station on the Clark road, and Virgin, the drive being mate in 15 hours. Kimball Bros, the state men of Utah and Nevada, are operating the new line.

Notwithstanding the financial press. ire due to the present financial crists throughout the country, the work of developing the new oil field goes merrily along. Every one is optimistly theerful and quite willing to back their best judgment with their money prove that southern Utah, and Washington county especially, will with the next year prove to be one of the great industrial centers of the weat.

"Independent" Mines Feature of Coal Development Salt Industry on Shores of the Great Saline Sea

In addition to these upwards of a dozen different companies have

for the coal during the year have D exceeded the record for last year. The increased production comes in part from the mines known as the independents, or mines not controlled by the Utah Fuel company, which has a monopoly on the mines of Carbon county. The increase in the production was demanded by the failure to meet the needs of the market last year. Coupled with this, there were added places where coal would be needed. Now railways and extensions and the operation of new mills and smelters would require an additional supply, it was seen last year, Added to these customers of the mines was a new gas and coke company in Salt Lake Cfty which began furnishing customers with both products that bust summer. When the use of gas became more extensive in this city, there was a lessening of the demand

for coal for domestic purposes, but not so much that the coming of the gas compliny did not create a greater demand for bituminous coal. Nevertisless, the demand has increased and with it the production-but the demand has exceeded in small degree the production.

"INDEPENDENTS" IN FIELD.

During the year many "independent" coal companies have organized to mine coal in Weber and Carbon counties. Their actual production, however, has not been as great as the concerns fininselves promise for the coming year.

ever, there have been some of the mines which have produced enough coal to supply the demands of the outlying counties. Summit and Weber are first in this list. Their ability to meet, in part at least, the demands of customers situate not remotely from their mines, has left more of the coal available for other districts.

COAL AND COKE DIVERTED.

A factor in the coal situation as it affects the city market is the curtailment of the copper output following the slump occasioned by the failure of the Reinze interests. As the result of this slump, the demands made upon the smelters for cost were tessened and is great amount of coll which otherwise would have gone into the shipments to the smelters either in the form of coal or coke were diverted to the markets for domestic and manufacturing

The financial stringency which acompanied the collapse of the Heinze interests also has had its offect. Manufacturing interests and others have curtailed their output and expenses and in so doing have lessened the demand for fuel. The fuel thus placed at the disposal of the coal companies for sale in the market has brought rellef ai a time when it was foured a scarcity of coal would he felt most keenly.

PRODUCTION IN UTAH.

The production of coal in Ulah for Their operations so far have been 1906 was 1,839,219 short tons, or an in- during the summer months.

D OTH the production and demand | mining along the line of providing for | crease of 236,961 short tons over the year preceding. The production of all the mines of the state for 1907 is estimated at 2,150,000 tons in round estimated at 2.159,000 tons in round numbers, showing an increase in 1907 over that of 1906 approximately 659,000 tons. Of the 2,150,000 tons approxim-ated, the independent operators have produced approximately 275,000 tors, according to the best figures obtainable on the subject. The counties in which coal has been found in extent are Carbon, Summit, Emery, Sanpete, Utah, Iron and Wes-ber. Other counties are represented, but with no mines of large extent and

out with no mines of large extent and actual production.

FACTOR IN SHORTAGE.

FACTOR IN SHORTAGE. A factor in the annual shortage of coal which occurs in the state, par-ticularly in Ogden and Salt Lake City-because of their greater domand for the fuel than other cities-disting and for the railroads. Every year at the time when cold weather approaches there is a shortage from a very na-tural cause. The railways require their cars for the shipment of sugar facts, livestock and grain. To offset the fall famile, special rates have been ex-tended dealers during the past year to buy coal from the mines at times when there has been an abundance of cars available. Many dealers took ad-vantage of this during the last sum-mer and as a result the shortage was not so marked this fall as It was a year and so marked this fall as It was a year on hand a sufficient number of cars to handle the coal, crops, and livestock to mand a sufficient number of cars on hand a sufficient number of cars to hand a sufficient number of cars to handle the coal, crops, and livestock simultaneously, as in the summer sea-son when neither coal nor crops move to a great extent there would be st many cars idle and subject to taxa-tion that the loss would be too great to stand. The railway companies urge upon dealers that the only way at this time to prevent the annual shortage is to provide for the storage of coal during the summer months. WHILE Utah agriculturists in the pump is set to work, and for 10 particular had particular had cause to re-

ually large amount of moisture that fell during the spring and early summer of 1907, the man or concern hoping for a bounteous harvest of sait looked on with deep anxiety as day after day rain poured down almost in torrents. For two reasons the wet season meant loss to the salt industry. First, the lack of sunshine naturally retarded the process of evaporation, by which means the salt is produced. and secondly, the floods of fresh water that found their way into the pools and lakelets of brine helped to check dissipation and added just that much

more water to be cast off as vapor. For reasons above stated the salt industry of Utah fell below normal conditions this year. The entire yield of the leading sait company, which practically produces the output of the state, was about \$0,000 tons of crude salt; a large part of that amount goes through a refining process, hereinafter briefly described.

The company owns and operates stout 1,000 acres of salt beds, near the railroad that runs to Saltair beach, tion ponds, and 100 acres comprise the "harvest field," The ground in question would be as dry and sailne as the several miles adjoining on the north, south and east, but for the great pump situated on the right hand alde of the treatle work leading to the Saltair pavilion.

months, 18,000 gallons of brine is conveyed each minute from the lake to the evaporation ponds. In other words, from efforts put forth by the salt company, the level of the Great Salt Lake is hourly lowered by the fors or 1,080,000 gallons, or each day 10,-\$00,000 gallons, aggregating in four months the enormous amount of 1,-

When run into the ponds, the water ontains 17 per cent of solid mattersalt. The process of evaporation is rapid, and for the greater part of four onths the beds are kept covered to depth of about 18 inches. Gradua depth of about 18 inches. Gradu-ally the percentage of sait increases, until 24 per cent of the fluid is solid, or bearly one-fourth. Then the gates leading to the "harvest" field are opened, and the contents of the evap-cration ponds gravitate into the lesser acreage and there the sait deposits rapidly, forming into crystals. From this state the sait is soon ready to be shaveled into heaps, whence it is loaded into cars, some of it to be shipped directly in the crude state, a large park of it going to the refinery.

WORK OF REFINING,

ing, and acreening processes are com-

ing, and screening processes are com-pleted comes the sadding. Besides supplying the markets of this state, the Utah product is shipped in large amounts to Idaho, Montana, Oregon, Washington, Nevada, Wyo-ming, Colorado, California and Na-braska. Competition is close, so close that profits in the outside points mentioned are almost out of the ques-

tion. In the northwest Uah sait comes directly into competition with the product of Sam Francisco The Utah concern is the solo mans-facturer of what is known as all-phurized sait, which is solidly com-pressed in 50-pound blacks and bors-it is a blood purifier and is extremely popular amongst sheep and cattle men of surrounding states. For some re-son or other, not much of it is sold is Utah, doubtiess because it is a home



joice because of the unur-

256,000,000 gallons.