INYO CHEMICAL COMPANY

DATA

INYO CHEMICAL COMPANY

POTASH

DEPOSITS AND PLANT
BIG PINE, CALIF.

909-910 SANTA FE BUILDING

SAN FRANCISCO, CALIF.

EASTERN OFFICE
953 BOOK BUILDING
DETROIT, MICH.

To our Stockholders:

In order that you may be more fully informed with respect to the present status of the Company in which you are a stockholder, and in order that you may become conversant with the magnitude and importance of the project which you have assisted in establishing, we have prepared the following data for your kind consideration.

FIRST: That the experimental work at our plant at Pasadena has been successful beyond anything we had reason to expect in that results obtained have demonstrated a recovery of all the salts contained in the brines of Deep Springs Lake, Owens Lake and Searles Lake in a high state of purity as follows:

Potash	(KCl)	99.89%
Borax	($Na_2B_4O_7$)	99.90
Soda Ash	(Na_2CO_3)	99.00
Sodium Sulphate	(Na_2SO_4)	99.20
Common Salt	($NaCl$)	99.80

SECOND: That the simplicity and economy of operation permit production costs heretofore not dreamed of, as shown in the Engineers' Reports, giving works costs for producing each ton of refined salts as follows:

Preparation and harvesting crude dried salts at lake, or lakes, per ton	$2.00
Freight bulk, desert to tidewater (this is rate now in effect on common salt, it is expected that low crude salts rate may be obtained)	2.80
Separation and refinement crude salts (this covers all factory costs including insurance, taxes and depreciation)	2.93
Total works costs	$7.73
Add estimates for all other charges	2.00
Total costs (all charges)	$9.73

THIRD: That the present wholesale market values of the salts contained in each ton of crude salts when separated and refined is - - $26.90

Net profit per ton over all charges - - - - 17.17

Gross income per year from 1000 tons per day - $8,070,000.00

Deduction total cost charges - - - - - - - 2,919,000.00

Net annual estimated profit from 1000 ton per day plant - - - - - - - - - - - - - $5,151,000.00

Net annual estimated profit from 200 ton per day plant - - - - - - - - - - - - - $950,000.00

FOURTH: That the total estimated investment required for solar ponds, plant, machinery, equipment, etc., etc., to be erected, beginning with a 200 ton unit at a cost approximating - - - - - - - - - $400,000.00

FIFTH: That processes work equally well on Searles Lake and Owens Lake salts and that either of these Lakes are available to our uses by leasing.

The former is under jurisdiction of the Interior Department at Washington and the leasing bill requires the payment of two per cent (2%) of value at point of shipment, i. e. 2% of crude salts value at Searles Lake.

Owens Lake is California State Property and the State requires a payment of twenty-five cents (25c) per ton for each ton of salts shipped.

Both of these lakes have Southern Pacific railroad connections.

At the present time plants are being operated on Owens Lake for the recovery of Soda Ash from the waters of this lake, permitting the other valuable salts contained in the brine to go to waste. The total values contained in each ton of salts from the brines of this lake is $26.28, and the value recovered is only $7.86. Under the Dolbear Processes we recover all the values, or within a very small per cent.

At Searles Lake one plant is now in operation producing Potash and Borax only, the other values contained in each ton of crude salts being allowed to go to waste. The total value contained in each ton of Searles Lake crude salts is $25.72, and the value of salts recovered, providing they get 100%, is $12.20. Whereas under the Dolbear Processes we recover all the contents at about one-fourth what it now costs to get two of the five products.

SIXTH: That the processes covering all important operations in connection with this work are fully protected by five United States Patents, three of which have been issued and two more pending, applications only having been filed recently.

SEVENTH: That all the chemicals contained in these deposits are basic and therefore subject to almost unlimited uses and ever increasing consumption (see sheets showing sales of Soda, Borax and Fertilizers).

EIGHTH: That unique and original processes have been the means of building some of the largest industrial corporations in the world, notably:

a - The Bessemer Process in the Steel Industry;
b - The Solvay Process in the Soda and Chemical Industry;
c - The Hall Process in the Aluminum Industry;
d - The Frasch Process in the Sulphur and Chemical Industry;
e - The Oil Flotation Process in the Mining Industry;
f - The Whitney Cotton Gin in the Cotton Industry.

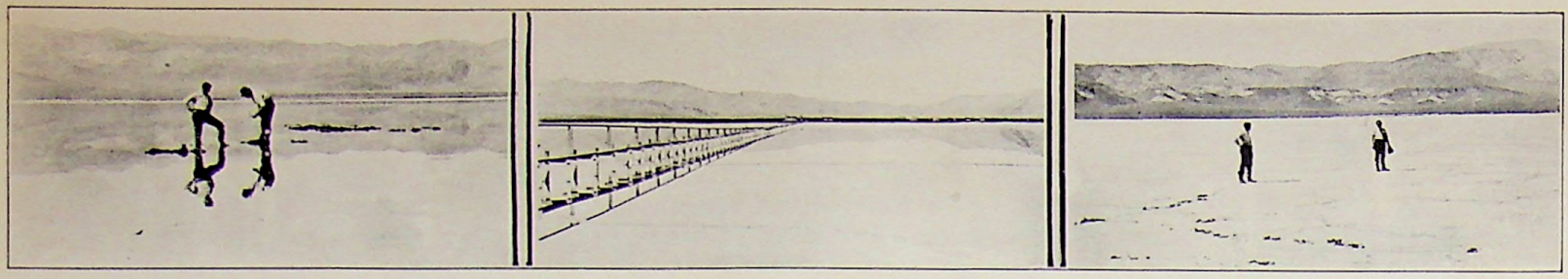
NINTH: That extreme conservation and careful but intensive study of all factors have prevailed throughout in the development of this project; we have not been satisfied with something "just as good"; we have not been satisfied to accept laboratory results as final or conclusive, as is fully demonstrated by our five years' continuous work and the building of two pilot plants to prove up the practical workings of laboratory discoveries. In addition to these matters connected with processes, we have made careful studies of Economical Production, Uses, Marketing Factors and Transportation.

In conclusion, it should be understood that under the improved processes as developed in our experimental plant at Pasadena, the recovery of all the constituent salts contained in the brines, or dried salts, greatly reduces plant costs for a given tonnage per day and that a 1000 ton plant at full capacity will only produce 130 tons per day of potash, or 39,000 tons per year, thus figuring the present consumption of potash salts in United States (about 500,000 tons) a 1000 ton plant will only supply about eight per cent (8%) of the present demand in this country, and therefore the market for all salts produced will permit greatly increased production.

Detailed Engineers' and Chemists' reports, descriptive of processes, costs and technical information are on file at the Company's offices.

H. W. Barr.

President.



The above are photographs of a small part of DEEP SPRINGS LAKE.

The INYO CHEMICAL COMPANY owns and controls over 2600 acres of this LAKE and surrounding SALT FLATS.

Each ton of sun dried salts from the brine of this LAKE contains:

416 pounds of POTASH - - - - - - - - -	at $40.00 per ton - - -	$8.32	
660 pounds of COMMON SALT - - - -	at $12.00 per ton - - -	3.96	
508 pounds of SODIUM SULPHATE -	at $20.00 per ton - - -	5.08	
306 pounds of SODA ASH - - - - - -	at $30.00 per ton - - -	4.59	
110 pounds of BORAX - - - - - - - -	at $90.00 per ton - - -	4.95	$26.90

It is estimated that the total tonnage of CRUDE SALTS contained in this LAKE, together with the BRINE that can be reduced to CRUDE SALTS by solar evaporation, amounts to over ONE HUNDRED MILLION TONS.

The DOLBEAR PATENTED PROCESSES, for which the INYO CHEMICAL COMPANY has exclusive rights, permits the separation and recovery of all the SALTS contained in each ton of CRUDE SALTS, in a HIGH STATE OF PURITY.

When separated and refined, one ton of crude salts, on the basis of present market values, is worth $26.90.

The total costs of making separations and refinements, plus freight charges to Los Angeles or San Pedro, is less than $10.00 per ton, leaving a net profit of over $16.00 per ton.

Chemists and Scientists have been working on processes to make these separations for many years without success. It has remained for the Chemists of the INYO CHEMICAL COMPANY to find the key that unlocks the immense wealth that is stored in the alkali lakes of California.

All important operations in connection with the Processes have been patented. Three Patents have already been issued and two more are pending.

In addition to the immense values contained in the deposit of DEEP SPRINGS LAKE, Government Estimates show a tonnage of CRUDE SALTS in SEARLES LAKE amounting to over FIVE HUNDRED MILLION TONS, and the waters of OWENS LAKE contain over ONE HUNDRED SIXTY MILLION TONS of anhydrous salts. The DOLBEAR PROCESSES permit the separation and recovery of salts from these Lakes quite as efficiently as from the brines of DEEP SPRINGS LAKE, and to a great extent the profitable recovery of values in these lakes is dependent upon the DOLBEAR PROCESSES.

The efficiency and cheapness in operation of the DOLBEAR PROCESSES

have been amply demonstrated at the plant of the INYO CHEMICAL COMPANY at Pasadena, California, and it is estimated from data secured in the operation of this plant that the costs of building a plant, to separate and refine the salts from any of these Lakes, with a capacity of ONE THOUSAND TONS per day will be less than $1,500,000.00, and a plant to produce FIVE HUNDRED TONS per day proportionately less.

STOCKHOLDERS of the INYO CHEMICAL COMPANY can look forward to interesting developments at an early date.

SEARLES LAKE BRINE

	% in brine	% dry basis	lbs. each in ton dried salts
KCL	4.75	13.0	260
NaCL	16.5	46.1	922
Na_2SO_4	6.9	19.3	386
Na_2CO_3	4.7	13.1	262
$Na_2B_4O_7$	3.0	8.5	170
		100%	2000 lbs.

Approximate values at Los Angeles or San Pedro.

260 lbs.	Potash	@ $40.00 -	$5.53
922 "	Common Salt	12.00 -	5.20
386 "	Sodium Sulphate	20.00 -	3.86
262 "	Soda Ash	30.00 -	3.93
170 "	Borax	90.00 -	7.20
			$25.72

Deduct

Harvesting sun dried salts	2.00	
Freight crude salts San Pedro	2.80	
Separating and refining by Dolbear Process	2.93	
Overhead and other Charges	2.00	
		9.73
		$15.99

At Searles Lake one plant is now in operation producing Potash and Borax only, the other values contained in each ton of crude salts being allowed to go to waste. The total value contained in each ton of Searles Lake crude salts is $25.72, and the value of salts recovered, providing they get 100%, is $12.73. Whereas under the Dolbear Process we recover all the contents at about one-fourth what it now costs to get two of the five products.

Government estimates show this deposit to contain over 500 million tons crude salts.

OWENS LAKE BRINE.

Specific Gravity- - - - - -1.33

	% in brine	% dry basis	lbs. each in ton dried salts
Soda Ash - - - - -	9.72	26.2	524
Borax - - - - - - -	3.00	8.0	160
Common Salt- - -	16.00	43.2	864
Sodium Sulphate	5.51	15.0	300
Potash - - - - - -	2.78	7.6	152
		100%	2000 lbs.

Approximate values f. o. b. tidewater, California

524 lbs.	Soda Ash - - - - - - - - - - - - @	$30.00 -	$7.86
160 "	Borax - - - - - - - - - - - - -	90.00 -	7.20
864 "	Common Salt - - - - - - - - - -	12.00 -	5.18
300 "	Anhydrous Sodium Sulphate -	20.00 -	3.00
152 "	Potash - - - - - - - - - - - - -	40.00 -	3.04
			$26.28

Deduct

Harvesting sun dried salts - - - - - -	$2.00	
Freight crude salts San Pedro - - - - -	2.80	
Separating and refining by Dolbear Process - - - - - - - - - - - - - - - - -	2.93	
Overhead and other charges - - - - - -	2.00	9.73
		$16.55

At the present time plants are being operated on Owens Lake for the recovery of Soda Ash from the waters of this Lake permitting the other valuable salts contained in the brine to go to waste. The total values contained in each ton of salts from the brine of this Lake is $26.28 and the value recovered is only $7.86. Under the Dolbear Process we recover all the values, or within a very small percent.

Owens Lake contains over 160 million tons anhydrous salts.

POTASH

The production of potash in the United States since 1915 has been as follows:

	Number of Producers	Crude Potash Produced	% of K_2O	Available Content of Potash	Sales
1915	5	4374	24.9	1090	1090
1916	70	35739	27.2	9720	9720
1917	95	126961	25.6	32573	32573
1918	128	207686	26.4	54803	38580
1919	77	119736	27.	32418	45728
1920	53	184066	26.7	49232	41444
Total		678562		179836	169135

Imports during 1920 totalled 982,262 short tons valued at $43,390,000, the K_2O content totalling 224,792 tons, or $193 per K_2O ton. In 1921 imports fell off practically 75% or to 250,245 short tons valued at $11,481,874 and having a K_2O content totalling 81,017 tons or $141.72 per K_2O ton.

Statistics of the fertilizer tonnage used by states since 1914 are as follows:

1914	---	7,340,528 Tons
1915	---	5,563,212
1916	---	5,390,549
1917	---	6,206,543
1918	---	6,756,743
1919	---	6,891,322
1920	---	7,639,239
1921	---	5,214,523
Total	---	51,002,659

Average per year --- 6,375,332 Tons

While the use of fertilizer in the United States has therefore actually established a decreasing ratio, the commercial acreage under cultivation increased by 25,000,000 acres between 1910 and 1920 - while the value of farm land increased nearly $27,000,000 in the same period and the value of crops produced increased approximately 100%.

BORAX

Trade Statistics

World Production of BORAX (Round Numbers)

In short tons of 2000 lbs.

Year	United States	Chile	Peru	Argentine	Italy	Asia Minor	Total
1913	58,000	55,000	2,200	1,030	2,650		118,880
1914	55,800	35,000	1,390	675	2,800		95,665
1915	67,000	17,600	710	210	2,750		88,270
1916	103,500	14,300	1,430	95	2,530		121,855
1917	109,000	9,900	340	0	2,575		121,815
1918	89,000	7,700	584	860	2,435		100,579
1919	66,000	11,000	570	2,170	2,275	7,635	89,650
1920	120,000	18,400	290	1,860	1,895	7,475	149,920

Average yearly production 110,829

The principal uses of Borax (Sodium borate) are in connection with the following industries.

Pottery and enamel industry
Glass manufacturing
Soap manufacturing
Tanning and glue industries
Food industry
Paper and linen manufacturing
Paint and pigment manufacturing
Metallurgical industry
Medical and pharmaceutical.

At least 50% of the entire market for borax in this country is in connection with the Enameled Ware Industry.

The Pottery Industry also uses a considerable quantity of borax.

Sodium Compounds

What applies to the market for borax applies in a still greater degree to the sodium compounds. Their comparatively large number, as shown in the table on the following page, plus their multiplicity of uses makes any accurate analysis of the market, other than as a total, quite impossible.

SODIUM COMPOUNDS

Sold in the United States

	1919		1920	
	Short Tons	Value	Short Tons	Value
Sodium acetate	778	116,667	1,020	143,887
benzoate	126	230,224	201	365,841
bicarbonate	134,962	3,486,635	188,906	4,256,715
bichromate	26,526	6,233,566	25,973	5,531,954
bisulphite	11,819	687,750	22,059	1,028,373
bromide	499	493,319	543	523,724
Sodium carbonate	9			
Soda ash	981,054	29,895,343	1,242,490	39,083,726
Monohydrate)	30,796	710,748	(12,267	115,256
Trona)			(60,609	343,911
Sal soda	80,090	2,229,994	62,857	2,128,937
Sodium Chloride				
Salt in brine	2,850,639	1,423,424	2,819,881	1,834,362
Rock Salt	1,642,057	6,240,450	1,683,020	7,338,079
Evaporated Salt	2,390,306	19,410,820	2,444,002	21,334,840
Sodium citrate tartrate and by-tartrate	33	58,128	45	67,115
Sodium furicyanide	3,437	1,346,285	2,930	1,318,049
fluoride #			934	210,782
fluosilicate #			719	143,800
hydroxide	311,388	20,091,978	382,680	25,894,641
iodide	12	86,985	10	29,905
nitrate	676	151,621	140	56,184
phosphate	14,760	1,733,996	30,515	3,233,896
silicate	300,138	5,879,628	304,503	5,751,088
Sodium Sulphate				
Salt cake	134,685	2,035,543	184,946	2,076,350
Glaubers salt	42,087	860,977	44,479	963,293
Niter cake	83,402	271,424	308,638	788,544
Sod. sulphide	45,448	2,645,181	42,952	2,962,033
Sod. sulphite #			3,778	197,782
Sod. tetraborate	28,518	4,351,891	35,281	5,674,012
Sod. thiosulphate	32,212	1,709,223	24,868	1,283,697
Other compounds	2,190	1,144,883	6,141	1,240,477
Sod. cyanida per-oxide and nitrate	17,188	5,331,123	8,633	3,415,085
	9,165,726	$118,857,806	9,886,920	$139,336,338

Included under other classifications.

INYO CHEMICAL COMPANY INC.

A $7,500,000 Nevada Corporation

Henry W. Carr, President. A native of Michigan and a resident of California since 1916. He organized the Inyo Company in 1917 and has been active in the direction of the company since that time.

Walter H. Witt, Sec'y and Treas. A native of Michigan and president of the Interstate Finance Corp. of Detroit. Also in charge of the eastern office of the Inyo Company, which is located in Detroit.

Charles J. Sabine, Vice Pres. Retired business man and substantial citizen of Detroit.

Clinton E. Dolbear, Chief Chemist. Inventor of the Dolbear process and in charge of production.

A project founded on the possession of one of America's richest chemical deposits and processes for the recovery of Potash, Borax, Soda Ash, Common Salt and Sodium Sulfate from Deep Springs Lake, Inyo County, Calif., and other lakes of like character

The company has spent five years and $500,000 in experimentation and in the development of processes to economically recover these salts from dry and desiccated lakes.

PROCESSES PATENTS TITLES, ETC.

Dolbear Process—Effects the recovery of the chemicals from the brine without recourse to artificial evaporation, thereby eliminating a large factor of cost both in plant, equipment and in production costs. The process is entirely new and embraces a basic principle heretofore unknown in the chemical industry. Proof of possession and description of Dolbear patents.

U. S. Government patent 840855 to ownership of 641 acres in Deep Springs Valley. The remaining 1959 acres are in the form of deeds to the Standard Potash Company, the ownership of which is in the hands of the Inyo Chemical Company.

This acreage is apparently one of the world's richest deposits of mineral salts and brine, according to the U. S. Geological Survey.

Supply of raw material sufficient to last centuries. Deep Springs Lake covers over 1200 acres to an unknown depth. Lowest appraisal of deposit equivalent to 100,000,000 tons of crude salts, also almost inexhaustible supply available to our uses at Owens and Searles lakes.

PHYSICAL PROPERTIES

2600 acres in Deep Springs Valley, California, also improvements thereon in the form of substantial buildings, canal, dike and dredge. Crystal bed in center of lake all diked in.

Experimental plant at Pasadena, Calif. Warehouse at Zurich station, Calif. Patented processes of almost incalculable value.

FINANCIAL STATEMENT

February 29, 1924.

ASSETS

Land	$ 697,249.85
Buildings and equipment	119,453.96
Roads and fences	12,665.79
Engineering & research	132,231.18
Organization & Devel.	103,348.49
Stand. Potash Co. stock	241,183.92
Capital stock subs.	23,072.00
Material and supplies	9,292.57
Cash	55,274.03
Accts. & notes receivable	18,170.60
Cap. stock disc. & exp.	68,807.34
Advance royalties	45,400.00
Misc. deferred charges	7,965.82
Total	$1,534,115.55

LIABILITIES

Capital Stock Issued—144,665½ shares, par value $10 each	$1,446,655.00
Capital stock subs.	24,600.00
Accounts payable—	
Officers	41,350.81
Other	17,887.66
Reserve for depreciation	3,622.08
Total	$1,534,115.55

THE MARKET

Potash in various forms is used in the manufacture of fertilizers, explosives, matches, soap and glass, tanning, dyeing and for industrial and medical purposes generally.

U. S. Consumption Estimates

Soda Ash	Potash	Borax	Sodium Sulfate	Common Salt
About 2,000,000 tons annually	Over 500,000 tons annually	About 150,000 tons annually	About 300,000 tons annually.	Over 7,000,000 tons annually

COMPETITION

AMERICAN

Production of potash in America is less than 25,000 tons annually and cost of its production is excessive

FOREIGN

German potash is mined from solid beds and contains 12 to 25 per cent potassium chloride. Most of this product is shipped to America as mined, as separation process is very costly. Thus German potash has to pay ocean and railroad freightage on 4 to 5 tons to compete with one ton of 98-99 per cent Inyo potash product.

1000-ton plant, 300-day year, or annual capacity 300,000 tons.

ESTIMATED PRODUCTION COSTS

Costs of refining 1000 tons of raw salts per day as follows:

Preparation and harvesting crude dried salts at lake or lakes, per ton	$2.00
Freight bulk desert to tide water	2.80
Separation and refinement of crude salts (this covers all factory costs, including insurance, taxes and depreciation)	2.93
Total works costs	7.73
Add estimates for all other charges	2.00
Total costs (all charges)	$9.73

PRODUCTION FACTORS

Each ton of sun-dried salts from the brine contains the following salts with their present wholesale values:

Soda Ash, 306 lbs. @	$30 ton	$4.59
Potash, 416 lbs. @	40 ton	8.32
Borax, 110 lbs. @	90 ton	4.95
Sodium Sulfate, 508 lbs. @	20 ton	5.08
Common Salt, 660 lbs. @	12 ton	3.96
		$26.90

Purity of Products

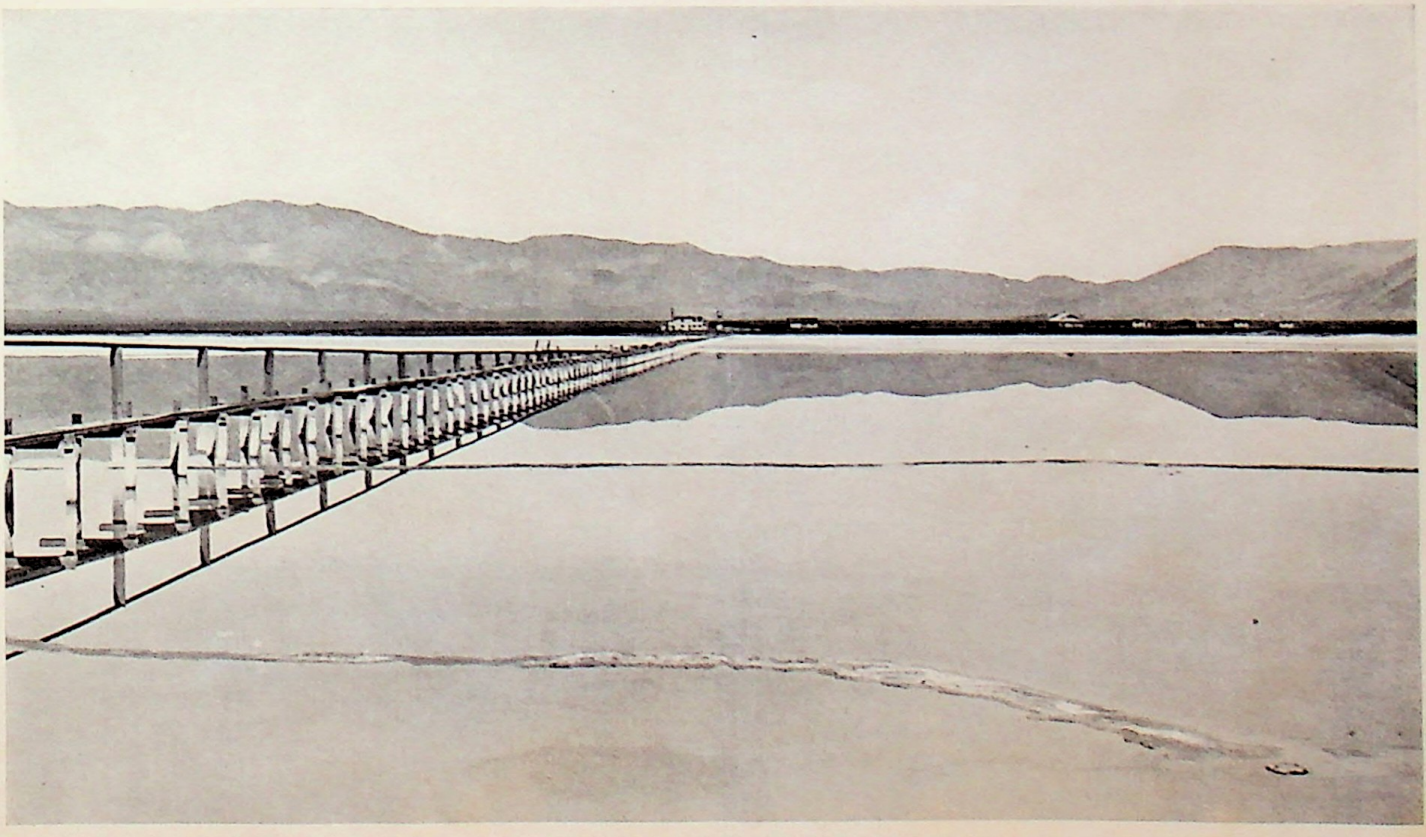
Soda Ash	97 %
Potash	99.89%
Borax	99.90%
Sodium Sulfate	93.60%
Common Salt	99.80%

Total estimated production costs on 300,000 tons at $9.73 per ton, $2,919,000

Value of annual production, 300,000 tons at $26.90 per ton, $8,070,000

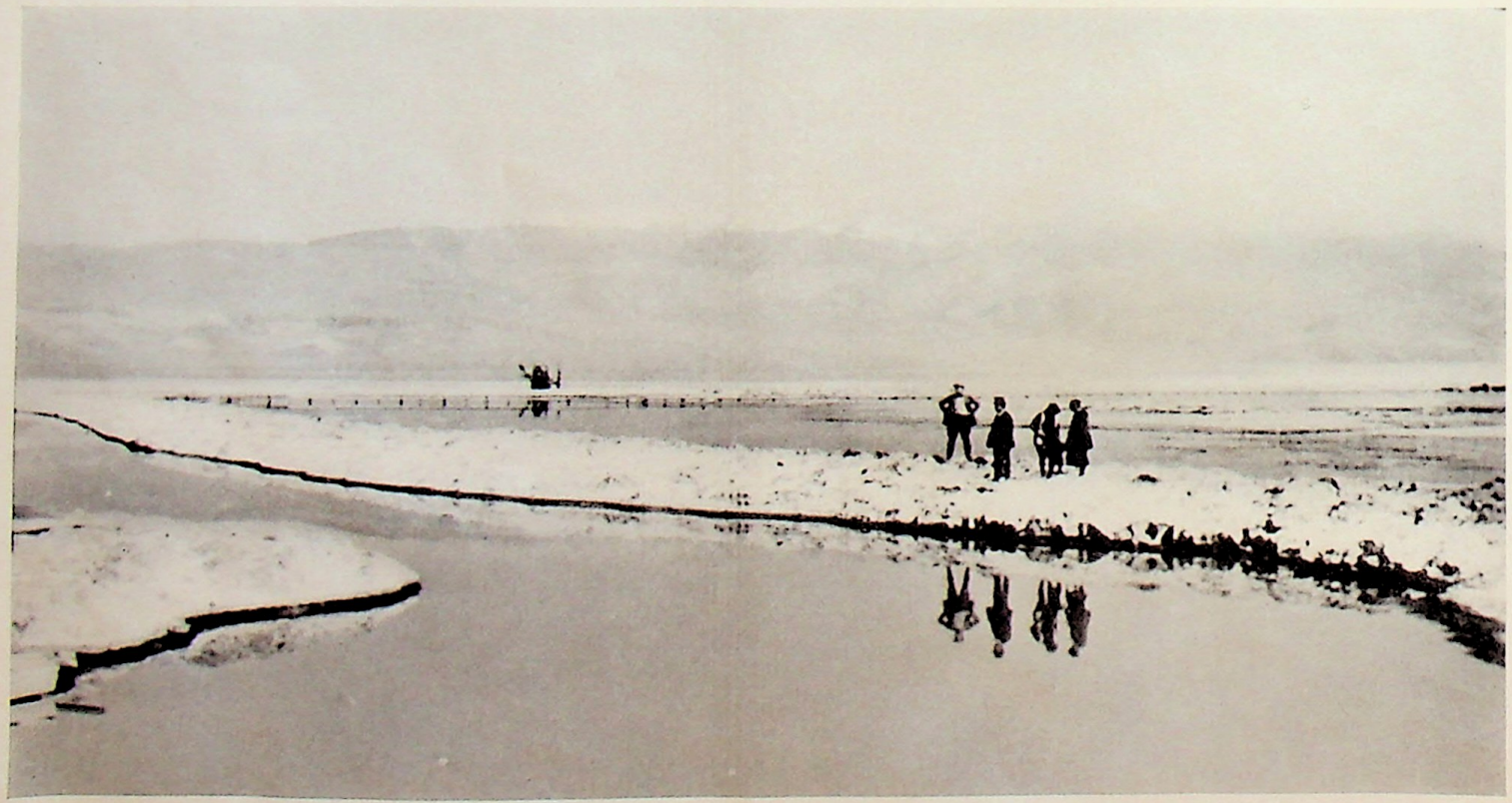
INDICATED ANNUAL NET PROFIT ON 1000-TON PLANT, $5,151,000

Solid bed of crystals near center of Deep Springs Lake. Property of INYO CHEMICAL COMPANY.



Plant, Pipe Line and Town Site. Property of INYO CHEMICAL COMPANY, Deep Springs Lake, Inyo County, California.

Dredge throwing up dike around Crystal Bed in center of Deep Springs Lake. Property of INYO CHEMICAL COMPANY.



Canal, Dyke and Dredge on property of INYO CHEMICAL COMPANY—Deep Springs Lake. This canal is three miles long and encloses large beds of solid crystal salts, providing means for almost unlimited solar evaporation.

ADDENDA

Since preparing the foregoing data we have acquired the plant and property of the California Alkali Company at Cartago, California, on Owens Lake.

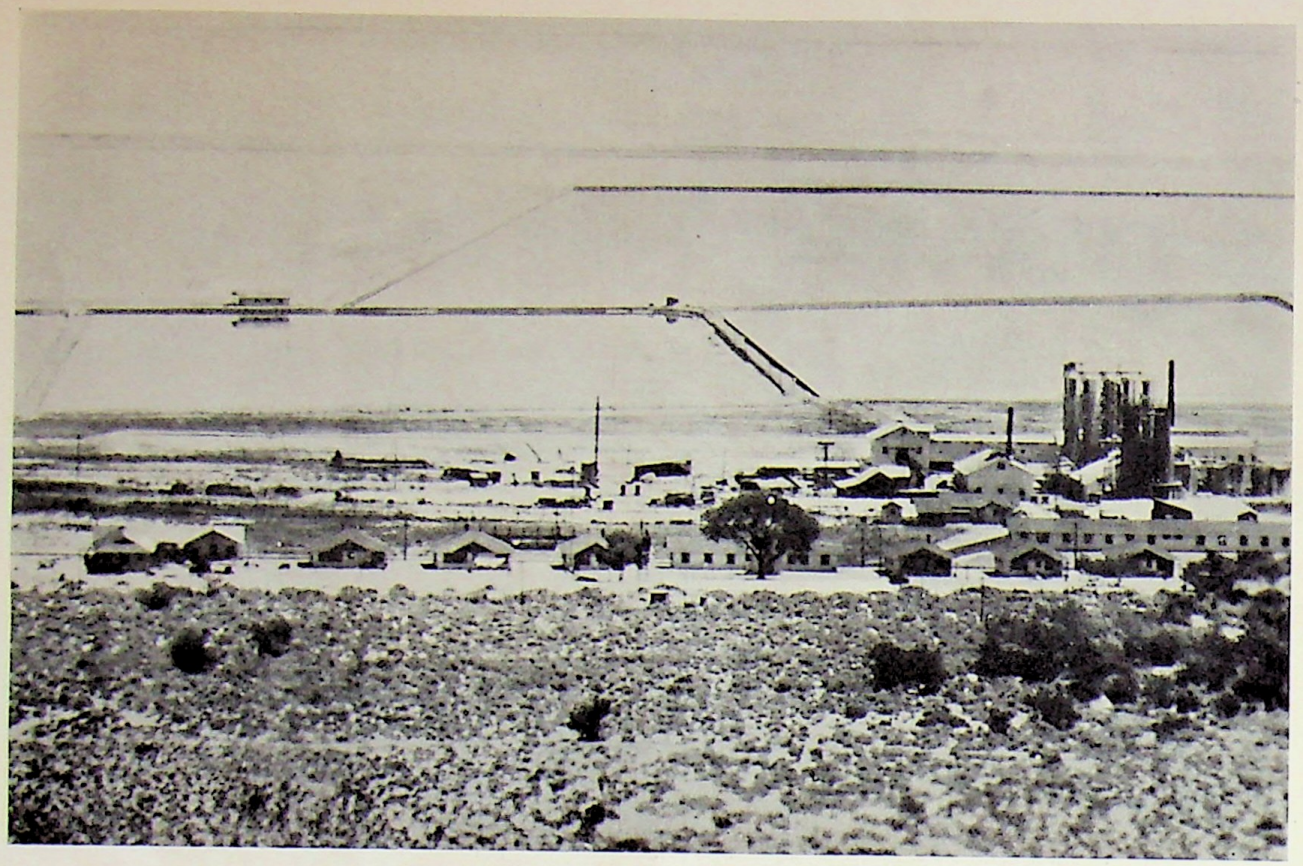
This plant was built and operated for the purpose of producing Soda Ash only, and contains all the machinery and equipment for producing that material.

The crude salts from the brine of Owens Lake, when evaporated to dryness, contains values amounting to $26.28 per ton. Of this total the Soda Ash amounts to $7.86.

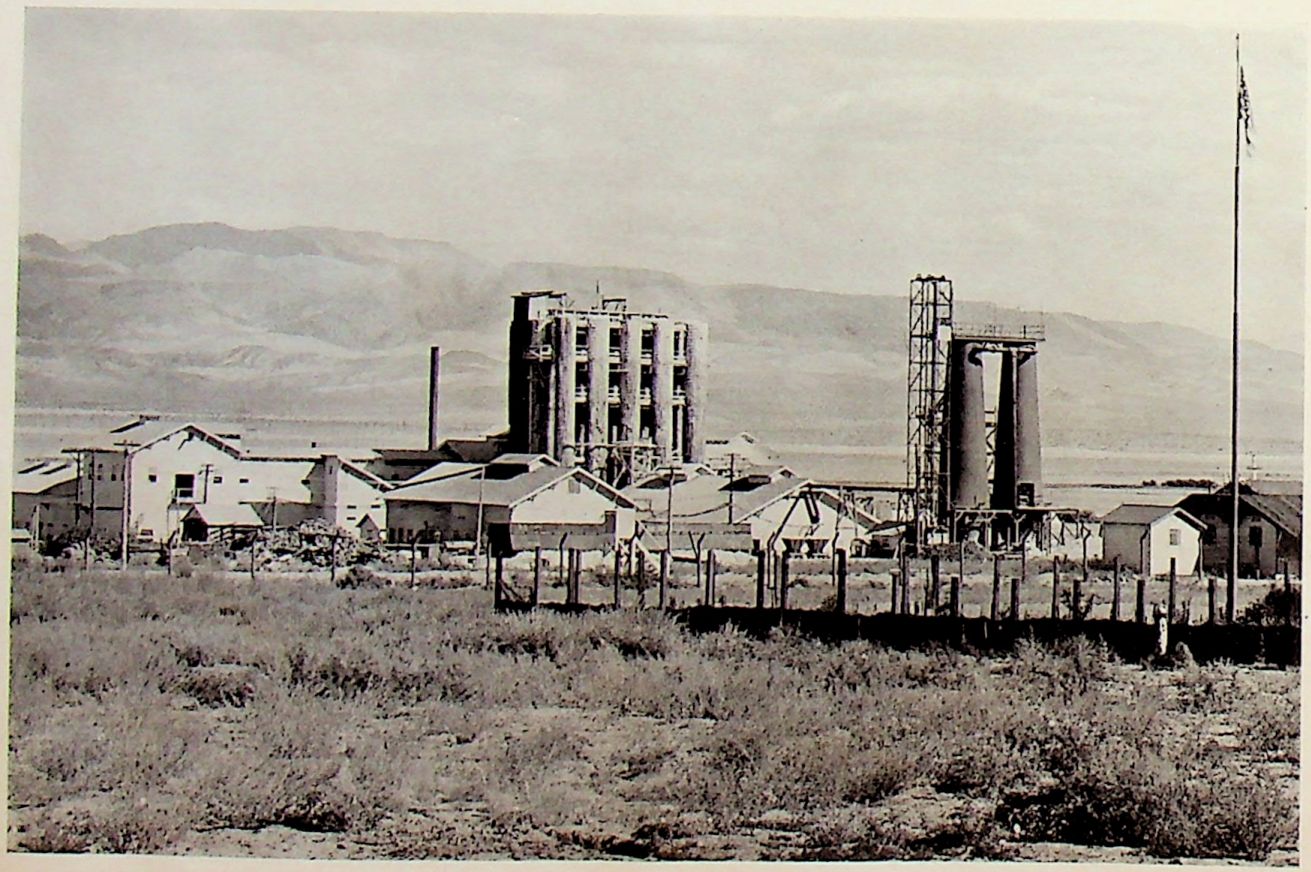
Under the Dolbear Process we recover all the values. With a comparatively small outlay for machinery and equipment, we can put this plant in shape to recover the total values in each ton of crude salts where they only get a little more than one-fourth of the values as now operated.

When it is known that the plant as now constituted can operate with a profit when recovering Soda Ash only, you can form some idea of results possible when we recover all the values.

This plant is now in operation, producing Soda Ash and Bicarbonate of Soda. Equipment for the production of Potash, Borax and other salts will be installed as rapidly as possible, and it is expected that within ninety days the output will be increased from 50 tons per day to 200 tons per day.



Owens Lake Plant, INYO CHEMICAL COMPANY



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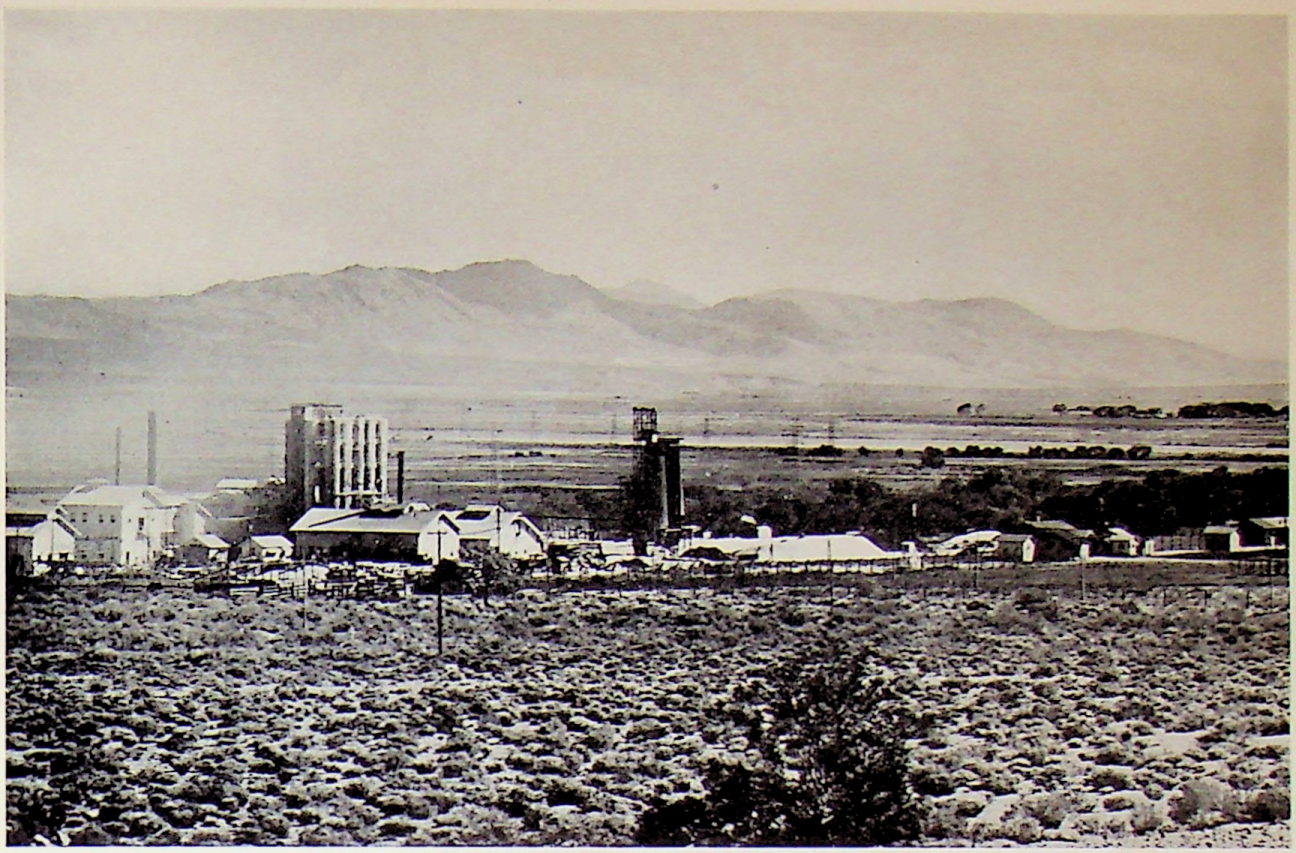

Owens Lake Plant, INYO CHEMICAL COMPANY

Owens Lake Plant, INYO CHEMICAL COMPANY