

EAST AFR. PROT.
23739

C.O
23739
Recd
Ref 10 JUL 13

Magadi Soda Co.
Ld.

1913

9 July

Last previous Paper.

1569

Magadi Railway
Water Supply.

Complains that foot. have now
withdrawn the right previously granted
to Co. to use the water of the N'gong
springs. Submit views & asks for immediate
redress.

Copy of lst issue to be for? for comm, by
to-morrow's mail, D.T. - & then
re-circulate.

at once.
H. J. K.
10/11/13

R 10 JUL
D. 10

Sir G. Ziddle

As the local foot. are to work
the branch & this cannot be done
without a proper water-supply, it is
to their interest to help the Co.
this matter. The Co. seem to have
done their best to carry out their obligations,
but so far as one can judge from these papers
the authorities are not helpful. The water

2 copies of enclos. to Gov. Secy. 10 July
to Gov. Secy. copy 11 July
Ans. 12 July

1913 W129 807-68
A. & E. W.

Next subsequent Paper.

24457

water in question is in the old
Southern Mason Reservoir, if the stream
was not being reduced, I do not see why
the for-^{er} sh^d object. I sh^d have thought
that the construction of three concrete
troughs (50 ft long, I understand), which ^{draw} only
the overflow is taken by the Co. I, w^o
have improved the watering facilities for
the horses.

8 ft. tall. beneath.

H. J. R.

11/11/13

Supply for the

THE MAGADI SODA COMPANY, LIMITED.

M. SAMUEL & CO. MANAGERS

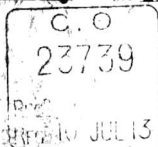
GRAMS "SODAGADI, LONDON"
TRADE LONDON WALL 1883

H/T

Shell House
255 27, Bishopsgate
London

211
9th July 1913

The Under Secretary of State,
Colonial Office, S.W.



Sir,

Our Resident Engineer informs us that the Government of the East Africa Protectorate has withdrawn the right of using the water of the H'gang Springs which was previously granted us. If it were not for our experience during the last few months, we should certainly not believe that such a thing were possible, but as it is the fourth time that the Government of the East Africa Protectorate has seen fit to override arrangements previously made, there is nothing left to us but to apply to you for redress.

When this Company was formed, we were assured that the Government would give us all due assistance in the carrying through of the very difficult task undertaken by us, but, instead of helping us, the present Government of the Protectorate is putting difficulties in our way which make our position absolutely untenable, as we never knew which of the decisions previously arrived at may be reversed at any moment. In view of the vital importance of the last injunction suddenly placed upon us by the Government we are reluctantly compelled to respect-

fully submit that means be devised not only to put this matter right, but to provide against a repetition of such occurrences in the future.

The Government has granted us the right to build a railway to link up the Magadi deposit with the Uganda Railway and one of the conditions imposed on us is that we should arrange for a water supply of 100,000 gallons per day. The fulfilment of this condition was rendered extremely difficult by the Government refusing to allow us to use any of the water in close proximity to the railway line. We then worked out a scheme for pumping water from the Upper Athi. The carrying out of this scheme was rendered impossible by the Government refusing to allow us the use of this water excepting on the condition that the flow at the Athi River bridge was not diminished in any way, a condition which our experts stated to be impossible to comply with. We then, after considerable trouble and expense, and mainly on the recommendation of the late Mr Currie, worked out a scheme for obtaining the necessary water from the Ngong springs, and, after having obtained the consent of the Government to the execution of this scheme under certain conditions, for which we amply provided, the whole of the material for the construction of this water supply was sent out to East Africa and the arrangements for the carrying out of the scheme were made. We may mention that this scheme involves the Company in very heavy expenditure, as we

The Under Secretary of State

9-7-13

have to go thirty miles away to collect the water. If the Government now wishes to withhold also this source of supply from us, they practically make it impossible for us to find the water, and we fail to understand the reasons why the Government, having granted the right to build the railway, now wishes to prevent us from providing the water necessary for working that railway.

We understand from our Resident Engineer that the Governor has gone on a six weeks' safari and that the Colonial Secretary states that he is unempowered to discuss the matter meanwhile. We should like to point out that, even should the objection of the Governor be withdrawn on his return, the delay so caused will materially affect the Company, and the Board may consequently be compelled to justify to the shareholders their statement that the question of water supply had been satisfactorily settled - a statement which was based on the Government's letter dated 22nd January 1913, a copy of which is attached to our accompanying report.

We have the honour to attach a full report and maps, clearly explaining, we believe, the whole position, but it may be as well to point out that the whole of the water which it is intended to take from the N'gong springs has up to the present been granted to us exclusively for the purposes of the Magadi Branch line. In connection herewith we take the liberty of referring to the request which we respectfully submitted in our letter of the 8th May, wherein

15694

The Under Secretary of State

9-7-13

we asked that the use of such part of that water as may not be required for the railway should be granted to us, at least temporarily, for certain other purposes.

In our scheme the needs of the Masai have been fully provided for by means of troughs, at which they can water their cattle, automatic valves being fitted so that the water is shut off from our pipe-line as soon as the level of the water in these troughs drops below a certain point. Our pipe-line, therefore, would be fed solely by overflow, and we feel justified in stating that our arrangements will be such as to guarantee that the amount of water available for the Masai will not in any way be reduced by reason of our operations.

We should like to express our regret that circumstances beyond our control have forced us to approach you in such a way, which we should not have done had we been able to see any other possibility of safeguarding the legitimate and vital interests of the Company.

We have the honour to be,

Sir,

Your obedient Servants,

FOR AND ON BEHALF OF

THE MAGADI SODA COMPANY, LTD.

M. J. ...

MANAGERS.

CD
R 12 JUL
1913

SL

DRAFT

Dear Mr. Samuel

12 July 1913

MINUTE.

- Mr. Read. 11 July
- Mr.
- Sir G. Fiddes.
- Sir H. Just.
- Sir J. Anderson.
- Lord Emmott.
- Mr. Harcourt.

Further,

I am directed by Mr. Secy Harcourt to ask the rest of you of the 9th of July regarding the action of the part of the S.A.P. in withdrawing from the Inagadi Co. the right of using the water of the N. Iron Springs.

2. W.H. is in communication with the firm on the subject & a further reply will be sent to you in due course

(Signed) HENRY LAMBERT,
for the Under Secretary of State

M. J.
23739

E.A.P.

217

~~22~~ sent
Recd
11/7/13
6.55 pm

and 24487
26357

DRAFT

Telegram to
Governor
Nairobi

11 July

Kenya

Magadi Co. ² protest against
propylastic

MINUTE.

Mr. Read 11 July

Mr.

Government session as to
amplitude

* Sir G. Fiddes 11 stone

Sir H. Just.

Sir J. Anderson.

Ngong water supply ~~&~~
road pit

Lord Emmott.

Mr. Harcourt.

They assert that needs ~~&~~
antepresent

means fully provided for
Worshipis

by troughs ~~that~~ then

pipe line fed solely by

overflow water for

[T.O.]

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enlarging
reduced \circ in that be so
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iconical

and as supply is in
albumen invocacion

Old Southern Review

I do not understand first
permissioe

objections \circ Ameyats has
eg.

transcriptions
to the interest that

Request that you will
reprinting

look into matter
legabare

without delay +
decurse
report by telegraph
reunivern

Warcom

9.7.13. 215

THE MAGADI SODA COMPANY LIMITED

REPORT ON NEGOTIATIONS re WATER SUPPLY FROM N'GONG
HILLS TO MAGADI BRANCH RAILWAY

N'GONG.

After several schemes for a railway water supply had been considered and abandoned Mr Ross meanwhile found a considerable quantity of water in the form of springs in the N'gong Hills. These springs eventually go to form the Kisserian and Rosnerley streams which disappear under the ground within a very short distance of the foot of the range, and it appeared to Mr Ross that, by putting in suitable troughs which the Masai cattle could use, there could be no objection to our drawing off the surplus water which overflowed from these troughs. We enclose copy of a letter from our Resident Engineer dated 18th January 1913, in which application was made to the Government for permission to use this water, and a plan which was submitted at the same time showing the springs and streams in the N'gong Hills which it was proposed to use, is also attached. After many interviews with the Governor permission was granted us to use this water, and copy of the letter in which this permission was granted is enclosed.

Since the date of this letter, namely January of this year, we have presumed that the water question for the Magadi railway had been definitely settled and indeed a report was made to the Board to the effect that the N'gong supply had been granted by the Government and was a satisfactory solution of the matter. On the 4th of this month, however, we gathered from a letter which we received from Mr Ross that some difficulty was being raised on the matter. In this letter Mr Ross says:

"I received the following telegram from the Chief Secretary to the Government on the 12th inst:-

'Following telegram received from Provincial Commissioner, Naivasha: Begins:- "Masai disturbed at Soda Company commencing to tap Kisserian and No.9 river to which Browne strongly objects in his 429/2 of 15th December 1911. Permission should not be granted.' ends. Please desist from tapping these springs until you have arrived at agreement with District Commissioner, N'gong.'

Mr Ross goes on to say:

"I cannot definitely state what attitude the District Commissioner, Mr Browne, will take, but it seems an extraordinary thing for the Government to grant us rights to tap certain springs on plans which were laid before them and which received their full consideration and which evidently a little Masai grumbling now makes them raise the question of a further permission or something of the sort from the District Commissioner, N'gong."

He goes on to say:

"The fact that the Masai have the first call on the water by our automatic troughs should convince the Government that the interests of the Masai are fully protected ~~for~~ in the scheme under which the water has been granted."

Our fears that the authorities were raising the question of this water supply again is confirmed by a telegram which we received on Friday and which reads as follows:-

"Governor instructs from N'gong weirs G and H only can be tapped lower streams also additional three troughs be fed from upper intake consider must be misunderstanding through some misapprehension of Brownes but Governor unapproachable as left twenty seventh June six weeks safari southwest Masai reserve Chief Secretary unempowered consider modification his absence projected work hung up suggest get Colonial Office empower Chief Secretary with Technical Advisers consider and decide whether sanctioned scheme cannot be adhered to closely or fully without detriment Masai and settle matter immediately"

If, as we take it from this telegram, the Governor now refuses to allow us to take any of the water from the lower streams except those marked G and H on the enclosed plan, we would point out that it deprives us of nearly 90% of the water

available from these lower streams which would be equivalent to about 80% of the total water available from these lower streams, and leaves us almost entirely dependent on the water from the upper streams, which have never given, even in the wet season, much more than 100,000 gallons per diem which we require and which will undoubtedly mean in the dry season that the railway water requirements will not nearly be provided for by the whole of the upper streams plus G and H of the lower streams. Further the Masai would be entitled to deprive us also of this supply by watering their cattle exclusively from the troughs to be put in by us whilst the whole of the water of the lower streams might run to waste. We would point out that the attached plan showing the position of the streams, their estimated supply and the numbers under which they are known, was submitted to the Government before we received their letter of the 22nd January 1913, and it is inexplicable to us how the Government, having once sanctioned the scheme in which the streams and their outputs were definitely shown on a plan can now withdraw their sanction for the use of the water from the most abundant of those streams, and thus render the concession which they gave us practically worthless. In addition to the plan showing the position of the streams, we also attach a list showing the gaugings and the dates on which they were taken of both the upper and lower N'gong streams, and it can clearly be seen from this list that to deprive us of the lower streams except G and H practically deprives us of three quarters of the available supply.

To briefly recapitulate the matter we would point out that in Mr Ross's letter of the 18th January he applies for the whole of the supply from the higher springs exclusive of 15 and 16, these being the only ones which are ever used by the Masai and

then only occasionally, which gives a supply of 104,231 gallons per diem. This quantity, although the lowest gauging ever recorded by us, was taken in an extremely rainy year and therefore the margin of safety is nothing like sufficient. He therefore, applied also in this letter to put in a lower main intake on the stream F at an elevation of 6,000 feet, where, by means of troughs the amount of water from the lower springs the full flow of which taken at the same time was estimated at about 425,000 gallons per diem excluding stream No. 9 which it was never proposed to touch, could be used to make up the deficiency in the supply from the higher springs. It was also proposed to improve the watering place at stream No. 9 which at present flows through marshy ground by putting in good stone watering places, and the Governor's letter of the 22nd January is in reply to Mr Ross's letter of the 18th January, in which these propositions were put forward, and agrees to his suggestions subject to a proper form of agreement being drawn up.

As we thought there might possibly be some mistake in Mr. Ross's telegram, which indeed was not quite clear to us, we cabled to him yesterday as follows:-

"Your cable 4th by lower streams do you mean lower weirs
 "as per your letter 25th November last If so it appears
 "to us Governor's instructions deprive Company of about
 "80 per cent of total supply. Cable reply".

and Mr Ross wires us to-day as follows:-

"Yes, lower weirs whereby supplementary supply reduced
 "80 per cent invalidating whole scheme. Also upper intake
 "troughs place vital supply at mercy of Massi".

FOR AND ON BEHALF OF

THE MANAGERS OF THE COMPANY, LTD.

MANAGERS.

COPY

MAGADI JUNCTION,
18th January 1913. 2/43

The Hon. The Chief Secretary,
To The Administration,
East Africa Protectorate,
NAIROBI.

Sir,

N'gong Hills - Magadi Railway - Water Supply

In accordance with your request of the 16th instant I now have the honour to forward under separate cover plan showing the position of the N'gong Springs, Streams and Weirs, and the line of proposed Concentration Pipes.

(1) The gaugings of these springs and the surveying of the concentration pipe-line have been in hand from the middle of August until the end of November, and copies of the weekly gaugings obtained have from time to time been forwarded to the Government through the General Manager of the Uganda Railway.

(2) By reference to the enclosed plan it will be seen that a group of springs rise above the 6700' elevation. These springs are not used by the Masai, and it is proposed to draw as much of our supply from them as possible. For this purpose we have to build intakes at these springs and lead the water from them to a central intake tank at an elevation of 6680' as shown.

(3) Although the pipe-line has been staked out it is recommended that Springs Nos. 15 and 16 should not be tapped, but left for the Masai who - at certain periods of the year - bring up a few cattle to this vicinity which rises in a very much flatter lie of country than the rest of the upper group of springs.

(4) The flow of these higher springs (exclusive of Nos. 15 and 16) gave a total of 104,231 gallons per diem on 2nd November 1912, just before the November rains set in. This is the lowest gauging recorded by us after the recent dry season extend-

ing over a full five months.

(5) This yield not providing a sufficient safety margin over our requirements, the lower springs and stream flows were therefore gauged. These gave on the same date (2nd November) a combined minimum flow of 425,533 gallons per diem - excluding Stream No.9 which gave a further flow of 33,724 gallons per diem on the same day.

(6) To ensure the Railway supply we have, therefore, to put in a lower main intake on the stream "F" at an elevation of 6000'. Small intakes will be built on the lower streams at the points shown on plan, from which such water as may be required to make up the deficiency in the railway supply will be led by means of a pipe-line to the main lower intake. From this intake our 6" diameter main pipe-line runs for 33 miles to a large tank at Cairn Hill (elevation 5800') From this tank the water flows by gravity along the railway as far as Keera Station - fifteen miles from Lake Magadi.

(7) Water from these lower streams will only be used when, and if, required to bring up the supply to the railway demand.

Compensation Water

(8) In the scheme as proposed to the Consulting Engineers, Springs Nos. 15 and 16 and stream No.9 (which latter gave a flow of 33,724 gallons per diem at our last lowest gauging) are to be left entirely for the Masai. Stream No.9 is the second largest in the N'gong Hills District and its whole flow will therefore always be entirely open to the Masai.

As it flows through somewhat marshy ground certain points to be selected by us on this stream will be cleaned out and, if necessary, pitched with stone to give the cattle comfortable watering places.

(9) A study of the map will show - apart from Stream No.9 - the fact of our having intakes so low on the lower streams

will always mean the easy access to the Masai of the stream flows "G", "H", "J" and the "Kisserian" above where we tap them and therefore before the water reaches our intakes. This of course would lead to pollution of the water.

In a measure to obviate any necessity for their watering above our Lower Intake, and again to guard against any possible chance of the Masai running short of water through our tapping the streams and springs - I propose to put in a set of concrete compensation water troughs in the vicinity of, and below, the main lower intake.

This set at first would consist of three concrete troughs each 50' long, and of the type shown on attached print. A closed-in chamber would be fitted and so arranged that as soon as the level of the water in the trough began to fall the ball-valve would drop and the inflow at once recommence. This ball-valve acts automatically and would always ensure the Masai having the first call on the water should they require it. The troughs would be fed by a pipe-line from the lower intake.

Thus a permanent supply of 6,300 gallons - and as much further water as the cattle coming to the troughs could possibly require - would be assured.

If, later, it were found that more troughs are needed to accommodate the cattle, these could be added by us.

Government Station Supply

(10) Should the Government Station be transferred to this vicinity the supply for the station could always be obtained from our Lower Intake.

There will doubtless be certain minor modifications of this scheme, but in its broad sense the above represents that which we wish to adopt.

I therefore have the honour to respectfully apply for its

approval by the Government.

I have the honour to be,

Sir,

Your most obedient Servant,

(Signed) T.A. ROSS,

Resident Engineer - Magadi Railway.

N.B./ The following plans &c. are forwarded under separate cover:-

- Blue print - Type of Water Trough - No.T.1.
- do. - Index Plan of Magadi Railway.
- Plan tracing - Plan showing springs, streams and proposed Concentration Scheme, N'gong Hills - No.W.23.

The Secretariat,
NAIROBI,
East Africa Protectorate.

January 22nd 1913.

Sir,

I have the honour to acknowledge the receipt of your letter No.H.45 of the 18th instant containing certain proposals for a water supply for the Magadi Railway to be conveyed in pipes from the N'gong Hills.

2. Subject to the acceptance by your Company of an obligation to surrender without compensation to Government at any time, either temporarily or permanently the whole or any portion of the supply which may be required by Government whether for the use of the Masai or for any other Government purpose, the scheme as set forth in your letter is approved.

3. It will be necessary for the terms of the arrangement as finally concluded to be incorporated later in an agreement signed by a legally authorised representative of the Company.

I have the honour to be,

Sir,

Your most obedient Servant,

(Signed) C.C. BOWERING

Chief Secretary to the
Government.

T.A. Ross Esq.,
Resident Engineer,
Magadi Railway.

Date.	Weir.	Height in inches.	Quantity gallons per day (results sent home.)	Corrected quantity.	Quantity as estimated by Mr. Horton.
1912.					
26th Oct.	A. "V"	2.20	14,824	20,448	227
2nd Nov.	A. "V"	1.6	9,288		
9th Nov.	A. "V"	2.3	22,838		
26th Oct.	B. "V"	1.60	9,288		
2nd Nov.	B. "V"	1.4	6,609		
9th Nov.	B. "V"	1.6	9,288		
26th Oct.	Nol. "R"	1.4	69,640		
2nd Nov.	Nol. "R"	1.4	69,640		
9th Nov.	Nol. "R"	1.5	77,307		
26th Oct.	C. "R"	1.80	100,744		
2nd Nov.	C. "R"	1.7	92,640		
9th Nov.	C. "R"	1.8	100,744		
26th Oct.	C ¹ . "R"	2.3	144,588		
2nd Nov.	C ¹ . "R"	2.7	182,299		
9th Nov.	C ¹ . "R"	2.4	153,532		
26th Oct.	C ² . "R"	3.7	287,503		
2nd Nov.	C ² . "R"	4.2	344,341		
9th Nov.	C ² . "R"	4.0	319,645		
26th Oct.	D. "V"	1.0	2,894		
2nd Nov.	D. "V"	---	---		
9th Nov.	D. "V"	---	---		
26th Oct.	D ¹ . "V"	1.80	12,369		
2nd Nov.	D ¹ . "V"	1.7	10,718		
9th Nov.	D ¹ . "V"	1.9	14,169		
26th Oct.	E. "V"	1.20	4,492		
2nd Nov.	E. "V"	1.0	2,894		
9th Nov.	E. "V"	1.0	2,894		
26th Oct.	F. "R"	2.60	172,604		
2nd Nov.	F. "R"	2.60	172,604		
9th Nov.	F. "R"	2.4	153,532		
26th Oct.	G ² . "V"	1.80	12,369		
2nd Nov.	G. "V"	1.5	7,848		
9th Nov.	G. "V"	1.4	6,609		
26th Oct.	G ¹ . "V"	2.50	28,152		
2nd Nov.	G ¹ . "V"	2.6	31,046		
9th Nov.	G ¹ . "V"	2.8	37,368		
26th Oct.	G ² . "V"	1.80	12,369		
2nd Nov.	G ² . "V"	1.4	6,609		
9th Nov.	G ² . "V"	1.8	12,369		
26th Oct.	H. "V"	2.40	25,416		
2nd Nov.	H. "V"	2.1	18,201		
9th Nov.	H. "V"	2.9	40,730		

LOWER WEIRS.

Date.	Weir.	Height in inches.	Quantity gallons per day (results sent home)	Corrected quantity.	Quantity as estimated by MR. HORTON.
26th Oct.	J. "v"	1.50	7,848		
2nd Nov.	J. "v"	1.3	5,486		
9th Nov.	J. "y"	1.6	9,288		
26th Oct.	Jl. "v"	1.30	5,486		
2nd Nov.	Jl. "v"	1.0	2,894		
9th Nov.	Jl. "v"	1.2	4,492		
26th Oct.	L. "v"	2.80	37,368		
2nd Nov.	L. "v"	2.7	33,724		
9th Nov.	L. "v"	3.2	52,171.		

NGONG WATER SUMMER

Upper weir.

229

Spring No. ~~2-100~~ Rectangular.

e.	Height in inches.	Gallons per day. (Results sent home.)	Corrected quanti- ties where wrong.	quantities per Mr. Morton.
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12.				
17	1.56	74,200	81,000	
26	-	-	-	
31	3.1	108,800	137,860	
7	1.8	127,860	100,294	
14	1.8	100,294		
21	1.6	84,767		
28	1.85	104,600		
5	1.6	84,767		
12	1.6	84,767		
19	1.4	69,640		
26	1.2	54,684		
2	1.2	54,684		
9	1.2	54,684		

Spring No. 2. "V" Weir.

17	.85	2,920
26	.9	2,200
31	1.25	5,000
7	.9	2,203
14	.9	2,203
21	.8	1,641
28	.9	2,203
5	.9	2,203
12	.9	2,203
19	.7	1,180
26	.7	1,180
	.6	792
	.6	792

date. Ht. in ins. Galls. per day Corrected Mr. Martin's
 (Sent Home). Quants. Quantities.

Spring No. 3.

230

.17	.7	1,400
26	.7	1,180
31	.9	2,150
7	.7	1,180
14	.7	1,180
21	.6	792
28	.6	792
5	.6	792
12	.6	792
19	.5	504
26	.5	504
2	.5	504
9	.5	504.

Spring No. 4 "V" weir.

17	1.7	10,700
26	1.8	12,350
31	1.9	14,150
7	1.8	12,369
14	1.8	12,369
21	1.7	10,728
28	1.7	10,728
5	1.7	10,728
12	1.6	9,288
19	1.5	7,848
26	1.5	7,848
2	1.4	6,609
9	1.4	6,609

date, Ht. in Ins. Galls. per day (Sent Home). Corrected Quantity Mr. Morton's Quantities.

Spring No. 6.

231

"V" weir & Elevation 7,350 feet.

17	.92	2,160	
26	.8	1,640	
31	.9	2,160	
2	.8	1,641	
14	.8	1,641	
21	.8	1,641	
28	.9	2,203	
5	.9	2,203	
12	.9	2,203	
19	.8	1,641	
26	.8	1,641	
2	.7	1,180	
9	.7	1,180	

Spring No. 7

"V" weir & Elevation 7200 ft.

17	1.8	12,400	
26	1.8	12,350	
31	1.75	10,800	11,540
7	1.6	9,300	
14	1.7	10,728	
21	1.6	9,288	
28	1.5	7,848	
5	1.4	6,684	
12	1.2	4,492	
19	1.2	4,492	
26	1.2	4,492	
2	1.1	3,614	
9	1.1	3,614	

Date. Ht. in Ins. Galls per day (Sent Home). Corrected Quantis. Mr. Norton's Quantities.

252

Spring No. 7 (a)

(New Spring - "V" weir.)

Oct. 5	1.9	14,170	
12	1.9	14,169	
19	1.8	12,369	
26	1.8	12,369	
Nov. 2	1.5	9,288	
9	1.4	6,624	

Spring No. 8 "V" weir. Elevation 7420-ft.

Aug. 17	1.56	8,500	
26	1.6	9,260	
31	1.55	7,800	8,570
Spt. 7	1.4	6,609	
14	1.4	6,609	
21	1.4	6,609	
28	1.45	7,200	
	1.55	8,548	
Oct. 5	1.55	8,	
12	1.2	4,492	
19	1.2	4,492	
26	1.2	4,492	
Nov. 2	1.2	4,492	
9	1.2	4,492	

Spring No. 10. "V" weir. Elevation 7,200 ft.

Aug. 17	2.6	30,600	
26	2.3	22,800	
31	2.55	28,500	29,570
Spt. 7	2.3	22,800	
14	2.1	18,201	
21	2.3	22,800	
28	2.1	16,113	16,200
Oct. 5	2.	16,113	
12	2.	16,113	
19	2.	16,113	
26	2.	16,113	
Nov. 2	1.7	10,708	
9	1.9	14,169	

Ht. in ins. Galls. per day. Corrected quantity. Mr. Korton's quantity.

Spring No. 11. "V" Weir. Elevation 7050ft (approx)

17	2.2	20,200	20,450
26	2.1	18,200	
31	2.2	20,400	
7	2.5	22,800	
14	1.8	16,113	
21	1.6	12,369	
28	1.6	12,369	
5	1.5	9,280	
12	1.5	7,848	
19	1.5	12,369	
26	1.5	7,848	
3	1.5	7,848	
9	1.5	7,848	

253

Spring No. 12. "V" Weir.

17	2.	16,100	
26	1.6	12,350	
31	1.9	14,150	
7	2.3	22,800	
14	1.7	10,728	
21	1.6	9,288	
28	1.3	5,486	
5	1.4	6,624	
12	1.5	7,848	
19	1.4	6,609	
26	1.4	6,609	
3	1.2	4,492	
9	1.2	4,492	

Spring No. 15. "V" weir.

17	2.	16,100	
26	1.9	14,150	
31	1.9	14,150	
7	1.9	14,169	
14	2.	16,113	
21	1.6	9,288	
28	1.4	6,644	
5	1.4	6,624	
12	1.4	6,609	
19	1.4	6,609	
26	1.	2,894	
3	1.	2,894	
9	1.	2,894	

Spring No. 16. "V" weir.

17	2.	16,100	
26	1.9	14,150	
31	1.9	14,150	
7	1.9	14,169	
14	1.9	14,169	
21	1.7	2,894	
28	1.25	5,040	
5	1.25	5,040	
12	1.2	4,492	
19	1.4	6,609	
26	1.4	6,609	
3	1.2	4,492	
9	1.2	4,492	

Rectangular weirs - One foot wide.

Date	Ht. in ins.	Galls. per day. (Sent Home)	Corrected quantities	Mr. Horton's quantity.
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Spring No. 1(a). 6800 ft. elevation.

Aug. 17	1.12	46,100	48,600
26	1.2	54,600	
31	1.3	62,100	
Sept. 7	1.3	62,280	
14	1.3	62,280	
21	1.2	54,684	
28	1.25	58,400	
Oct. 5	1.2	54,684	
12	1.2	54,684	
19	1.2	54,684	
26	1.2	54,684	
Nov. 2	1.2	54,684	
9	1.2	54,684	

Spring No. 13. 6150 ft. approx.

Aug. 17	1.5		
26	1.3	62,500	60,200
31	1.25	56,100	58,400
Sept. 7	1.1	47,500	48,500
14	1.1	42,322	
21	.8	36,379	
28	.5	15,120	
Oct. 5	.2	3,858	
12	.2	3,858	
19	..	Dried Up.	

Elevations of ~~Various~~ Weirs (Lower Streams)

9th
200

No.	Height.
A.	6,182.4 feet.
B.	6,155.9
C(1)	5,961.6
C(2)	5,930.4
F	5,942.5
E	6,292.7
13	6,184.7
G	6,195.7
G(2)	6,086.0
H	6,114.1
J	6,181.5
L (Rosmerly)	6,117.9
J(1)	6,025.3
C	6,228.0
I	6,437.4
D	6,417.1
D(1)	6,566.9

PUBLIC RECORD OFFICE.

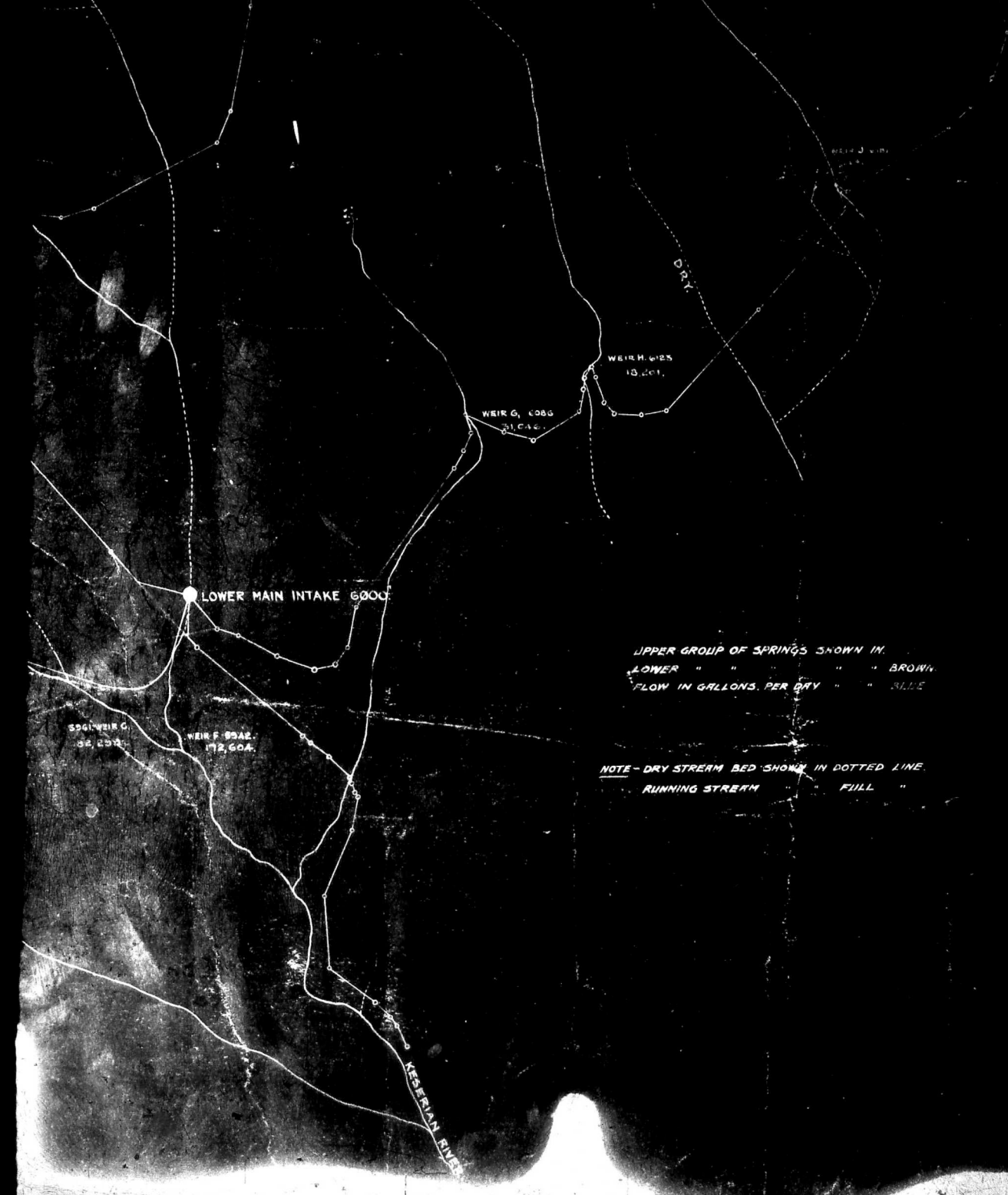
250

- Two
~~One~~ Documents, being 2) a plan showing springs, streams
 & proposed system of concentration - Magadi R'wipi
 water scheme.
 3) N'Gong Water supply - plan showing upper &
 lower weirs & streams etc.

has been removed to MP66 87

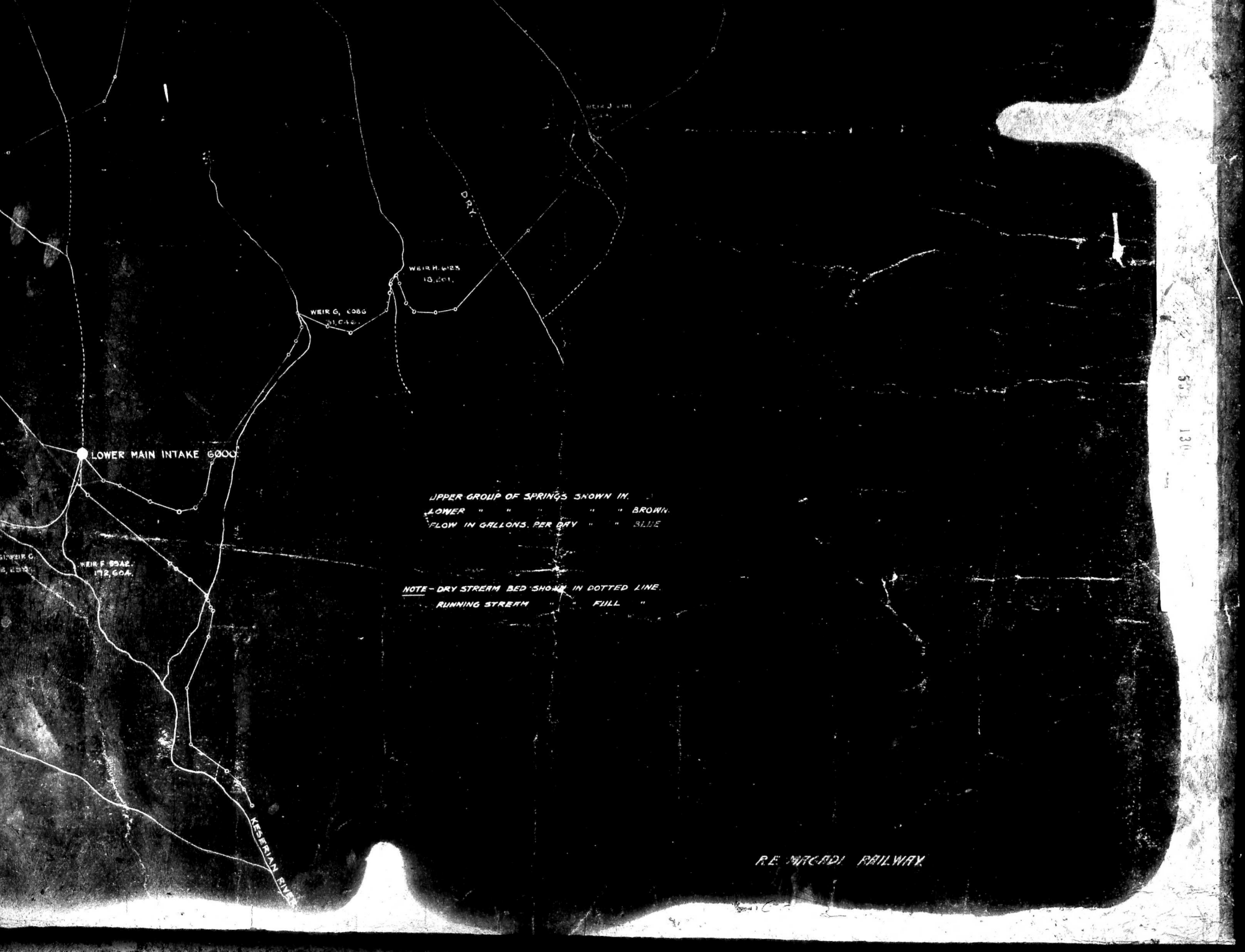
21. ix 70

H. Anderson



UPPER GROUP OF SPRINGS SHOWN IN
 LOWER " " " " BROWN
 FLOW IN GALLONS PER DAY " " " " G.P.D.

NOTE - DRY STREAM BED SHOWN IN DOTTED LINE
 RUNNING STREAM " FULL "



UPPER GROUP OF SPRINGS SHOWN IN
 LOWER " " " " BROWN
 FLOW IN GALLONS PER DAY " " BLUE

NOTE - DRY STREAM BED SHOWN IN DOTTED LINE.
 RUNNING STREAM " " FULL "

R.E. MTCADI RAILWAY

500 1300

PLAT SHOWING SPRINGS STREAMS & PROPOSED SYSTEM OF
CONCENTRATION - MAGADI RAILWAY WATER SCHEME.



NO. 4
4492

WEIR NO. 1
2094

DRY

DRY

DRY

DRY

No. 2

617 WEIR L.
33,724

WEIR NO. 3
2094

DRY

WEIR NO. 4
2094

WEIR NO. 5
2094



NAME:
4492

DRY

DRY

DRY

DRY

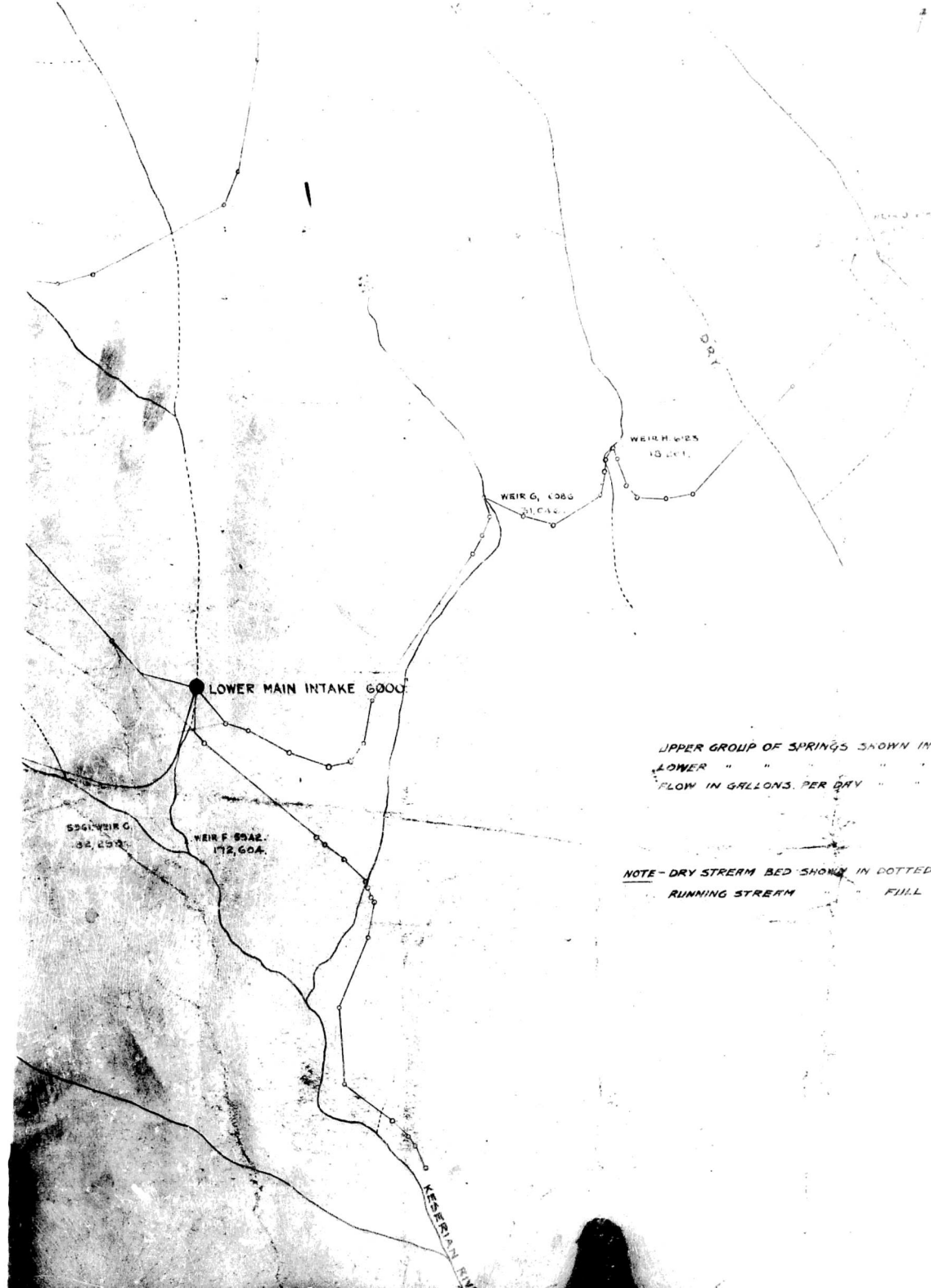
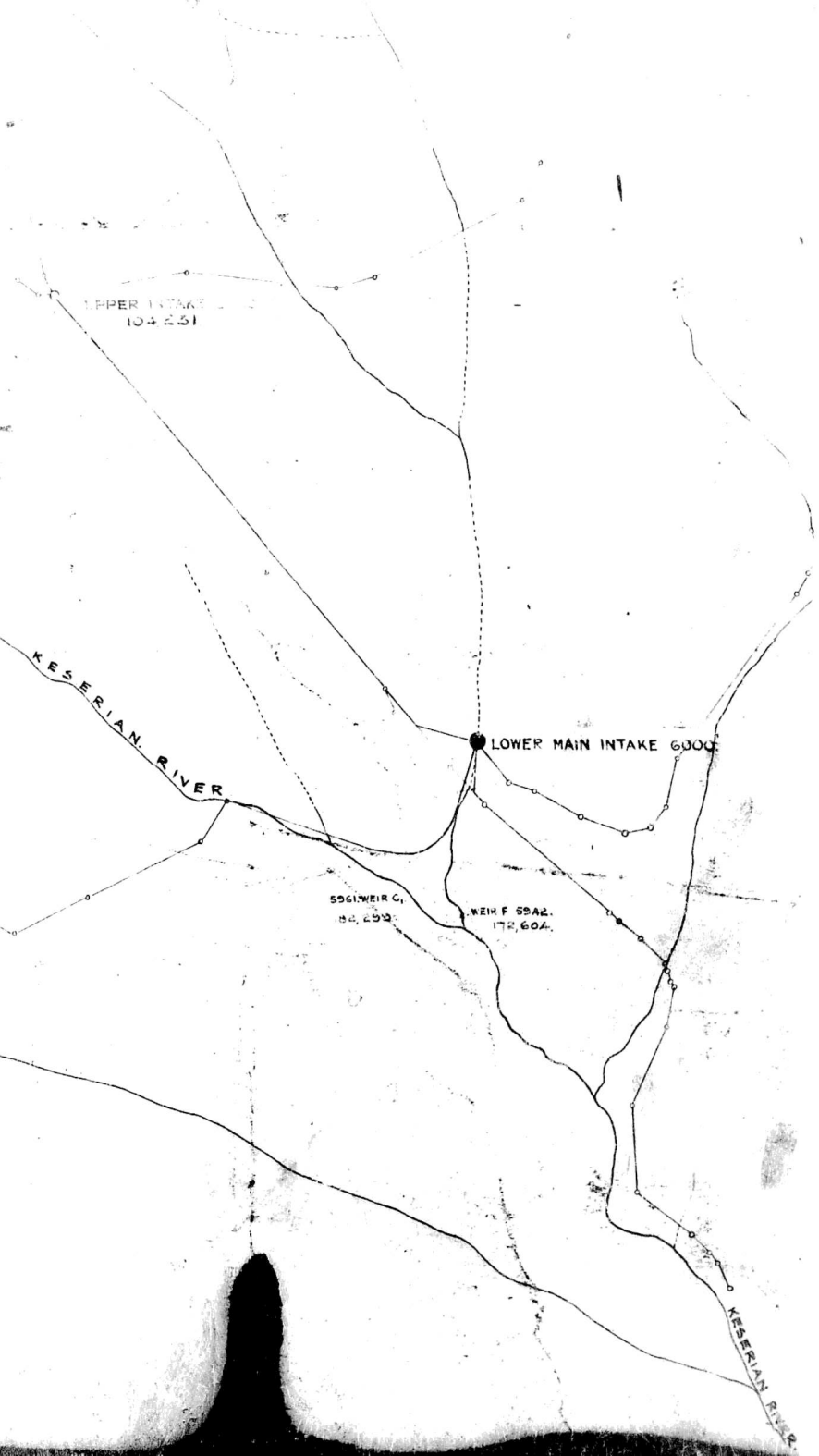
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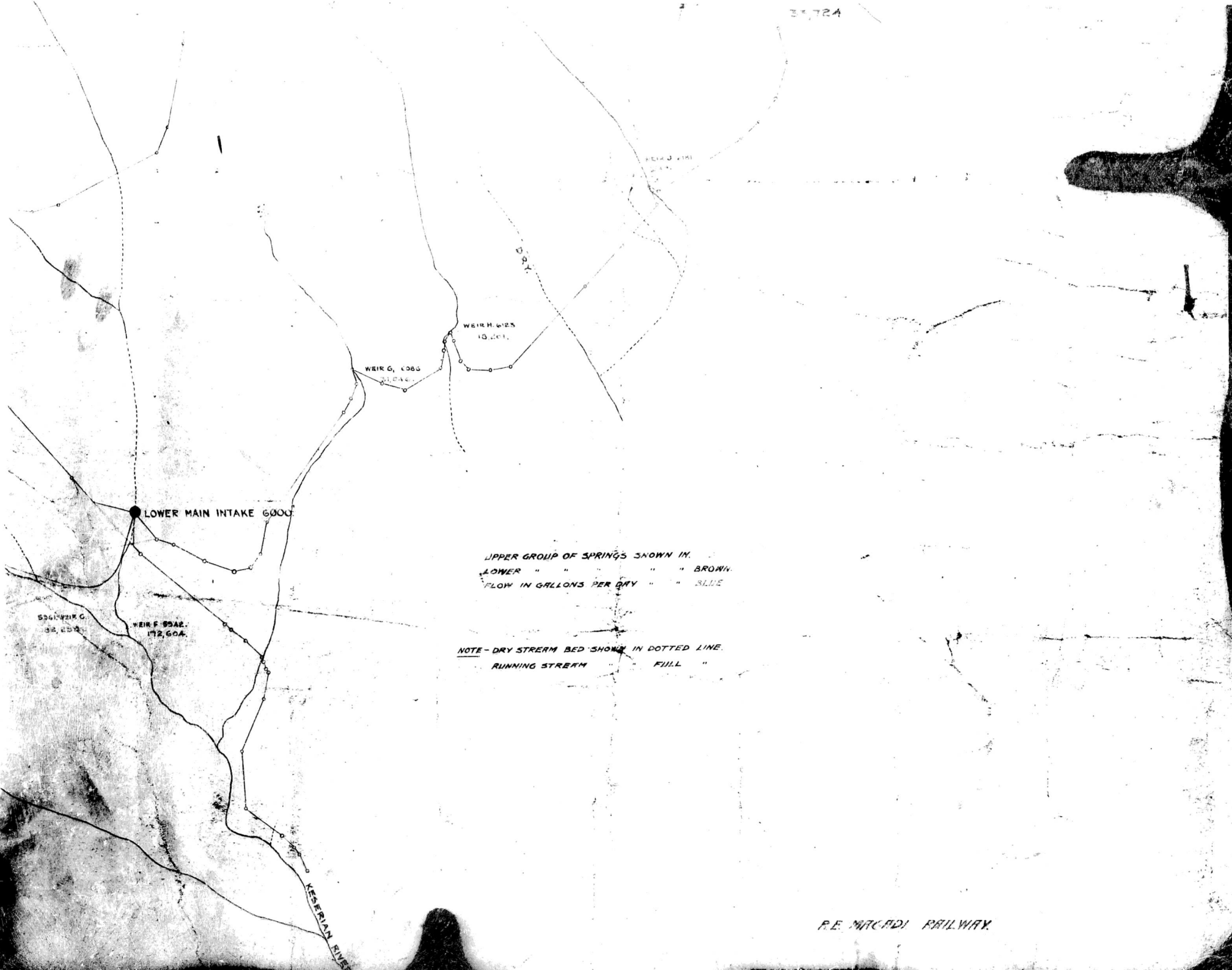
6117 WEIR L.
33,724

WEIR L. 1000

DRY

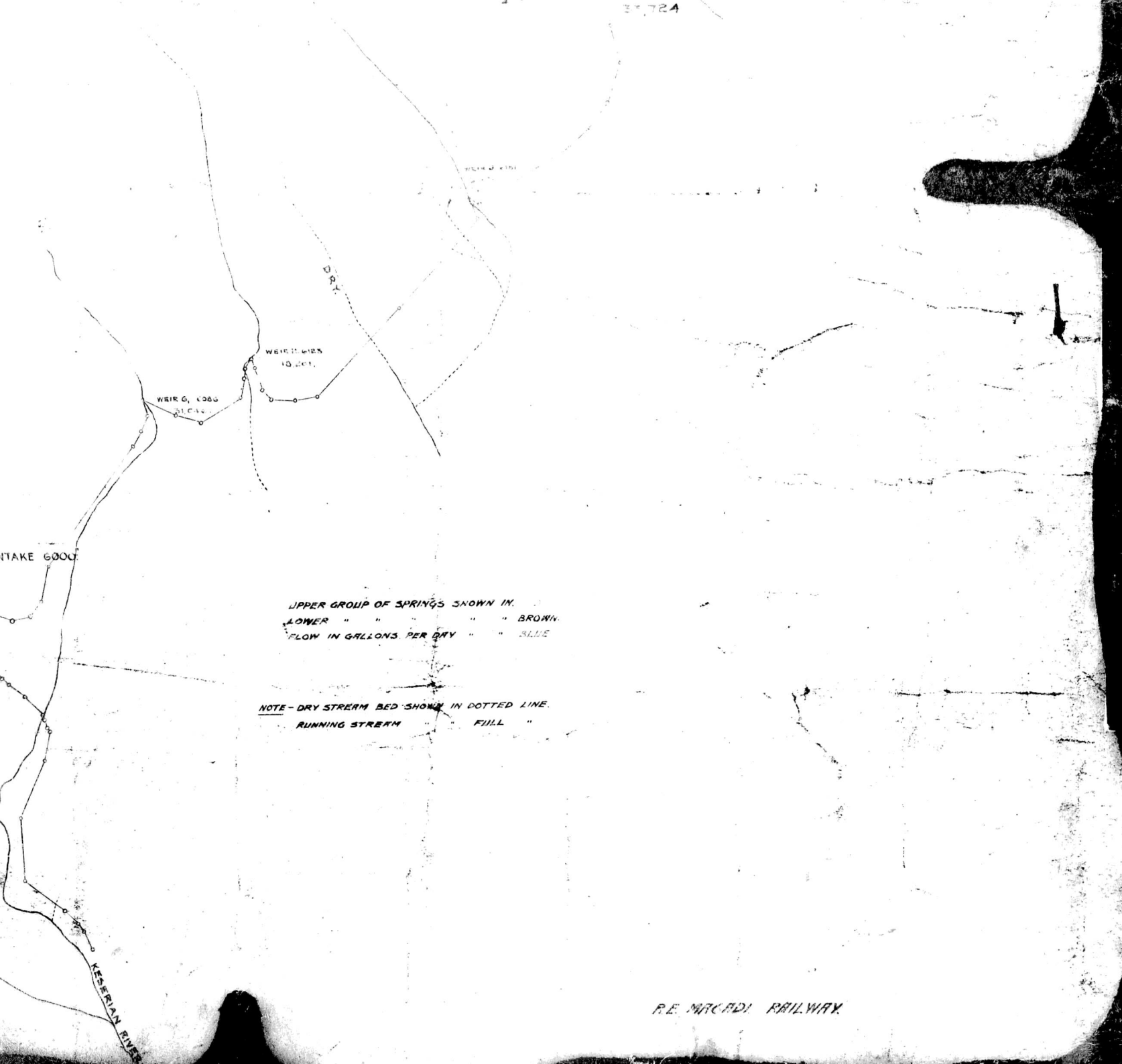
WEIR L. 1000





UPPER GROUP OF SPRINGS SHOWN IN
 LOWER " " " " BROWN
 FLOW IN GALLONS PER DAY " " BLUE

NOTE - DRY STREAM BED SHOWN IN DOTTED LINE.
 RUNNING STREAM " FILL "



UPPER GROUP OF SPRINGS SHOWN IN
LOWER " " " " BROWN
FLOW IN GALLONS PER DAY " " BLUE

NOTE - DRY STREAM BED SHOWN IN DOTTED LINE.
RUNNING STREAM " " FILL "

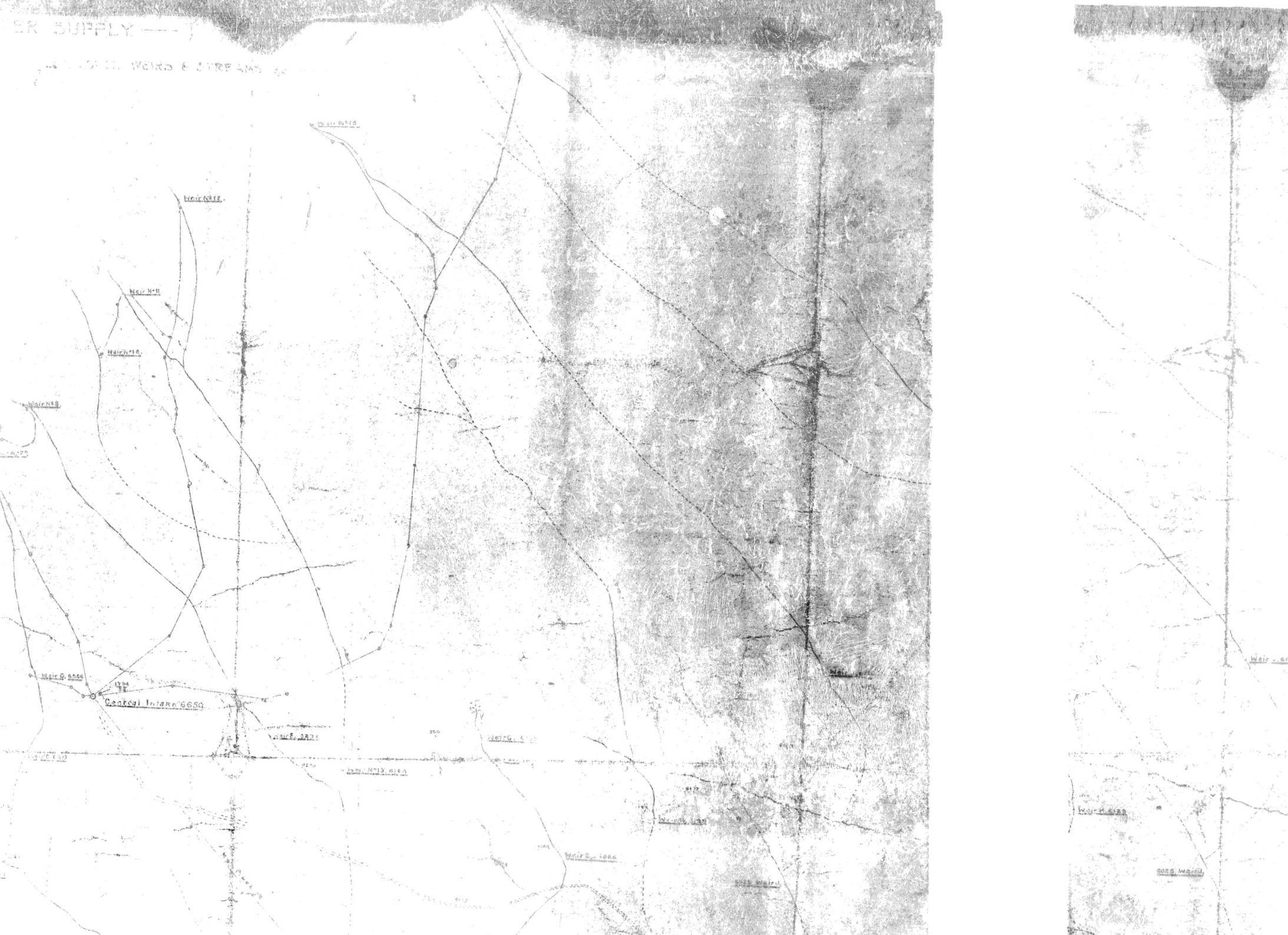
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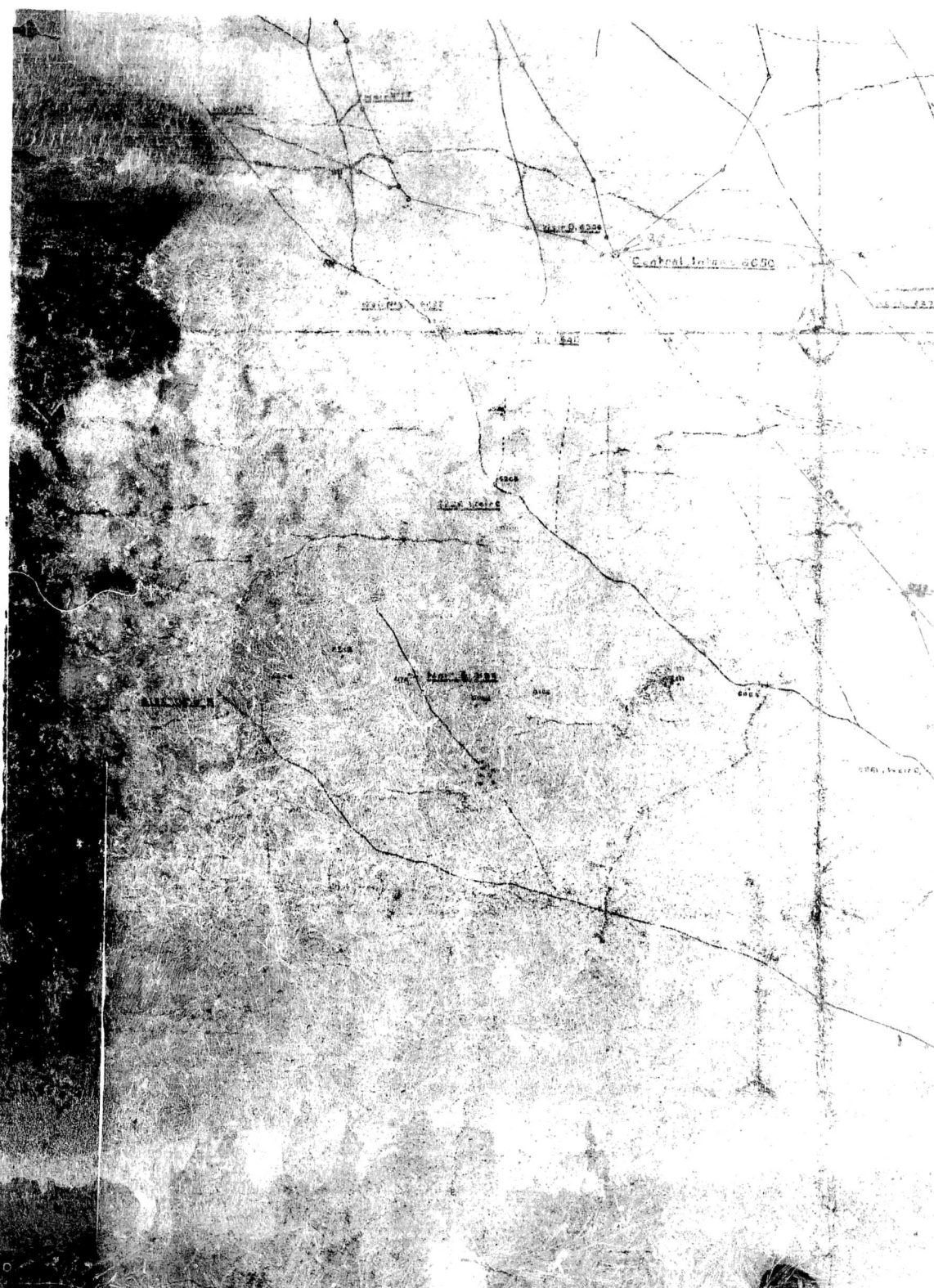
SHOWING WEIRS & STREAMS



ER SUPPLY

WEIRS & STREAMS





SECRET

SECRET

Central Intelligence Agency

SECRET

SECRET

SECRET

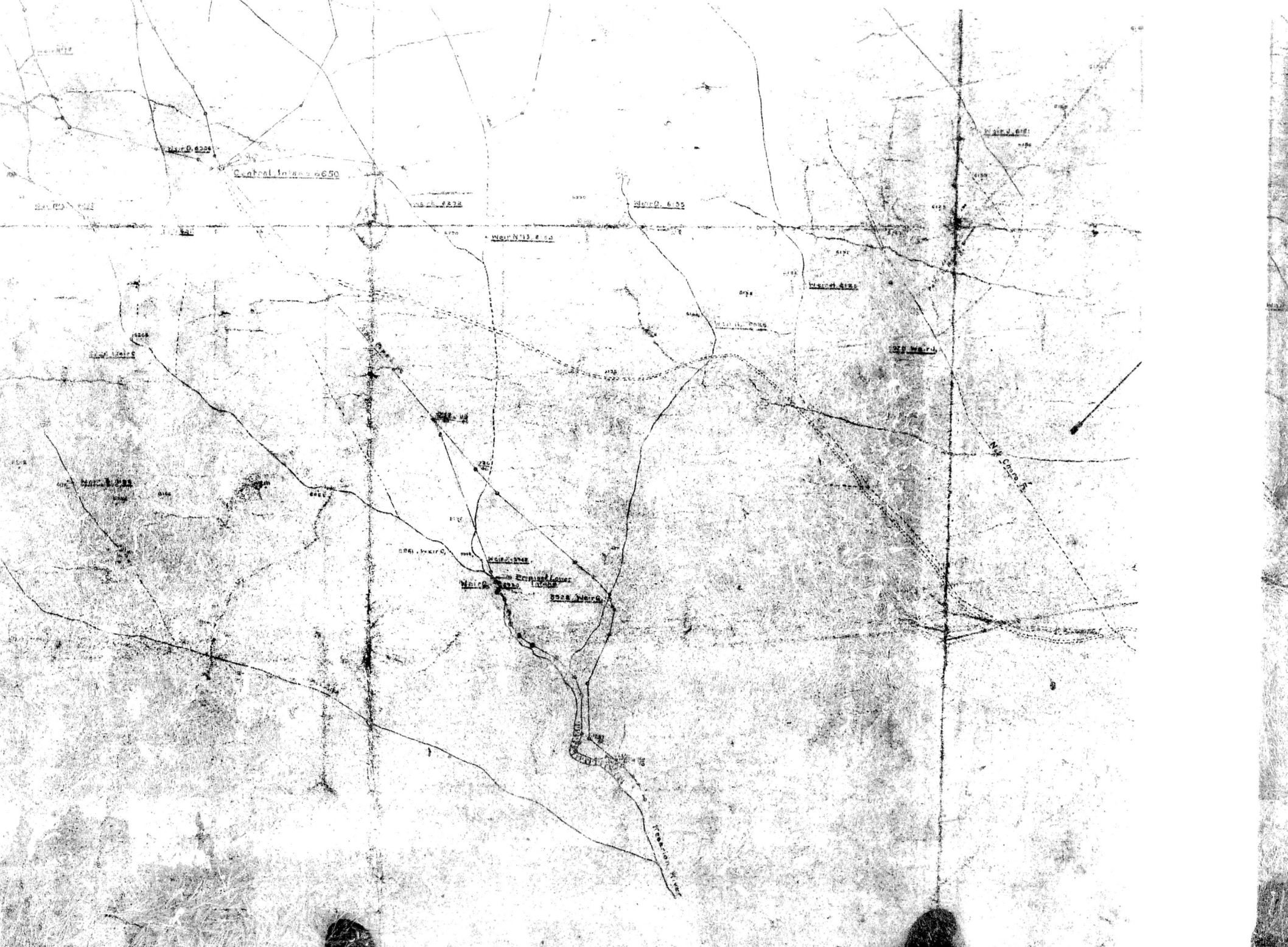
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Ward 6225

Central Ingress 6650

Ward 6275

Ward 6325

Ward 6375

Ward N 13 E 34

Ward 6425

Ward 6475

Ward 6475

Ward 6525

Ward 6575

Ward 6625

Ward 6675

Ward 6725

Ward 6775

Ward 6825

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