appointment were made to seven other applicants. It is intended to fill only 70 of these available posts as 10 have been down-graded to make provision for recruitment of local Africans, who will be departmentally trained as admission to agricultural training institutions in neighbouring territories is no longer possible. No further vacancies exist for posts provided under this scheme. A short refresher course was held for Agricultural Demonstrators at Headquarters.

African extension work is now carried out in all the eastern reserves of the Territory, where steady progress is being maintained. After overcoming the initial difficulties experienced in introducing improved agricultural techniques to the farmers, it is expected that the tempo of future development will be accelerated.

Further field quarters were constructed during the year to house agricultural extension personnel.

13.	SCHEME NO. D 3067 and 3067 A - DEVELOPMENT
	OF MIDIGAL STRVICES.
	(Compare former D 1037)
	Scheme Value
	Expenditure inclusive of contribution to 31.12.58 93,118
	Balance177,896
	Contribution by Bechuanaland

Protectorate Government .....£27,037

Tuberculosis / ...

hesepele sea Willia washero waga Taulo Ga stapele ta Kerche ba Meterec Ke moura go pourcha Barnato Je faulle qu' force treste merafe bener ja thouste, a peng balada stala grera leuror på an Kreste ner suerafnig de une dechaberene 100 Hille - e sena go bajuda kla juaka e sue e de Filocolo Barnabase le Paulo, de Thareko. La duche pelo uno Antoka ba yn mille, billiata tactor go palacia pekeje Kura pelusia go va Kupero- Somles En goroga Hura Salanesi unstre wa Hupers, la tera uno disenagon, toa baluia, ba Kgabagpenpa pettake, go ya taplos artheir & hegoe Na petitian de qual que de mandier Venus modurgera une petratane pase Fertha. Molandi wa Kupero - fergues Paulo Encanna RED. Monquee was le Kgelle ja gagese sphe getine Uquees Voohundeng ka gebater op maaka Soile a uttion dithere too ga Barnabase le lando a lavoge fa di Ma suo sangetos palade nuce a leka go de phaila. Ke goue for Parlo a Nor no Hurifer makko a ba a mo huter pha natoryana Eliperase a forefola me Mabi que qu'auto oper bombilie molande fa bareri e le lotre barrenpor lea Meedinero Jacene To Koga we Hupert That ye mere en parcoing molandi son mesepele. he ya Serga tion hitter of The bekene Ka fekepe. her moreke a ta togelar goue - a boda Jerusaler un - Kongour a bitela good lado etc e Hogile her go malourageor - sincerer a le sero go Prailo kgoton a Schald mathatia a monopole e ba suc ba c'ikaeleter, Kyrtua a Atologeleter Autoria walisia, ba kreia uco secagogena par rere a fan Ka ditirage for hopeda mence a seveta Kal ge da ge ga Jesa lese le ge quite ga garroe de Bocktucorrech por ditec. There za diveredera batho serve parte printe ante go phattalabre serve for la parte a terre gafe, ka proala Yo e Hang. Ha hetsaki je motie era Ha othe Sturgegeng go utera mafoko on moterco mang bejuda be huhagela pelo se ba purolola ge ganetsampe le Parlo le Parinale ai Anne badi Bliater tone ter Kadikgoro for moteo. To soon for Ple & ba goroga Kion Skoulance barrera suo fenaçaren ba Mabololo. Bajuda de bade blaba bale bantal. forgentore bako ta large la la fage ba tarrera bako gote ba lelike barrera defaqueloje e ba sur lebaka ba tere lefte ja herderet ka beledetlade ba derer dellachegarer to tagette to piela two defalshing to lycours there metsered ofte popori le porte le mo littele joeg, meet ba filta goed Histor kypton les fodesal moure per tucksooner Ka bogolo Ka tucksoo tocho to gallgan abbe bakto bandita faalo de Barenabe meduet, ba fatte foller to gallgan abbe bakto tombita distratedo

outbreaks of Foot and Mouth disease in neighbouring territories rendered it inadvisable to purchase breeding stock in those areas. A second course for the training of African personnel of this Department was carried out at Ramathlabama during the first 6 months of the year, after which the school was closed to enable the European officer in charge to go on overseas leave which had been long postponed.

Free inoculation campaigns against Quarter Evil and Contagious Abortion were extended during the year to the Mahalapye, Serowe, Tuli Block and Tati areas.

12.

2

6 month

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Expenditure inclusive of contribution to 31.12.58 ...... 57,287 Balance ..... 74,682

Contribution by Bechuanaland Protectorate Government .....£27,306

The two Agricultural Officers' posts were filled as well as the four Agricultural and Livestock Officers' posts provided under this scheme. One Agricultural and Livestock Officer resigned but was replaced before the end of the year. After an initial period of training at Headquarters this officer will be posted to a district station which has been vacant since August.

Of the available 80 Agricultural Demonstrators' posts, 63 were filled and offers of

appointment / ...

18 Paul de la Ata goro que ballio to horos ferevalues ba pic la hourdeac the " Ha ta utule gehai, Fuil & Keletasa baditshalm a An deasa rufuduor. Ca prope Require le Repareçano pa georige baducad. ta peped a long Boyeda le bainedi ta alera tadiletaler Humake e ga Ha Bapidor ba haver Aulisch fisider for Setsa Pard Brutrage ta huganya bathe bålegetri le Sione bruce ta fatola markutle a bone je bæ dira kgattlæcce, le bone ta suestole. Je planara fant der mo gogela knon uttige motre barkes Agibetlebra ka unge go fifthela ba athan basie is sule. Poulo a ullusuor pergrec pa mogepe e « Kileng a « photela Slefend Enile na moshing a page me a yr deflec de Bamabre de Equera que sa khakolda sa le bardo. Getainer loile supera deste a le ganfo de degar ja gaque ja Tarcie faile a se ka a procleta palo go oper gare. Le Ascier Dorbe a galgamentra para la boche morage kuroe metsu q e da teathlice, go belacion mer go pere. Mune pelo ba pere gabe Ka bypfrå le Sconcere le Anhokka ge lekola lig a Marcanere, Andhukkage boc tanc ba di Kokwarter goce ligt di Kköphela Da gelience. Jaana ka tarte kina Roga bå ya Allalice yare kas ba palacure sekepe po borla Antirel (Syrie) Kora , tra Succepting metricpele gover. Here lea phinker talance? lere down poleto ga meraspele nor bouce le ka fa ka amogetace og bandhaba ka goue me Karekeng. no malating as Ke gren fa Pante de Bernabas de bagage ta tanque ta ja Jeressel go bua mapole a thepiso te baapostoloi . Hoe l'aposasoi ta lanc ta duratie ta cura Ka durar gote tadameti takte fa tapacco Maja molacung son qu'illess Maja molacung son qu'illess l'étre pulsaile « l'una pa bacquest-obré, bagehoanes de badunced? Refort le Parte le Rocumber de prépa fa dures des Moduced di de Alicolo modure à ataine modure l'adre la da ancegorie mover le clavero fela o s'alectore Bagad me padrelader de ancegorie mover le clavero fela o s'alectore Bagad Jaketer go our a etametic pitor a a photokarya matrice la ge que Radictiaba ba pe lochère foter ya neocar wa que mache, tà ancegehoe une Kerekenog fela pella bala ba nitse - fa ta tesits medingwa. Ja diseto, maskala lo le ge pa dilo to di pula g. Jacon paperski leg len thefphi Bartsaba le pilas ge yn le kuch de Ramedoos know futioes go leelets philips a I be duniedise kaarender ha tekaden pe dibatukeen, Syria, Celacia le mefets a macyice 2. Le gaulha, abile le latola pue ya baithekatsi ba bane bare la a macquet He de goer Thubero kyrke go per rupiquese ge go beere de go kene

in equipping the power house and cold room for the Veterinary School since it was considered better to hold these funds over pending the approval of Scheme R. 907 for the establishment of the Veterinary Investigational Laboratory at Ramathlabama. Under Subhead "D", Item 1, a prefabricated office was erected at Werda, extensions were made to the Molepolole Veterinary office and the old post office at Mahalapye was converted into a Veterinary office. The necessary furniture for these new and extended offices was purchased out of Item 2 of the same Subhead and, in addition, certain new equipment was bought for the orderly filing of quota applications to facilitate the smooth flow of cattle to the abattoir.

During the year three vacancies for Veterinary Officers were filled and personnel were recruited for the two additional posts of Stock Inspector which were reserved under Veterinary Estimates and subsequently transferred to D 3047. Two Livestock Officers were promoted to the Senior Livestock Officers' posts which had been similarly reserved in the Estimates and subsequently transferred to D. 3047.

On the Veterinary farm at Ramathlabama additional fencing was carried out, additional agricultural implements were purchased and a limited amount of extensions were made to the existing water reticulation. No progress, however, was made in relation to livestock improvement since the recurring outbreaks / ...

- 21 -

Mosepele por Bibedi wa there (thep 16) Kerlee ja ba Bener gop mapetora Paulo a tran B. gry. And boe pe side balanleapet une Tarche a tran B. any. And boe pe side balanceapet une Tuckers Notlee a senterling Neuthouse for Modices near of your go in dellate Jacen B a dumetaning and of the senter is lone. made Pailo a Jacen B a dumetaning and to philiplang the under your lees was sented o The grant have be the thistoplang the under your lees a set o The manual is to the thistoplang the under your lees the o the the der on carrier the terms of the set of the offer the set of the ter on carrier the under go the standard and the a set of the ter on carrier the under the back of the offer of the offer a the terms of the term the terms of the lees the terms a term of the terms of terms of terms of terms of terms of terms of the terms of terms o Appende la la reache, I a transmer piloche mee ba yer teadele Speci de Celiere in Misseur difficility por transmere elle parlo Mum Detter Pouler a pripisa Turcolly son transmere elle parlo Mum Detter Pouler a pripisa Turcolly son transmere elle parlo magnatur ser hurcele nor brinza, Munkologiere su ostikoste e a magnatur ser hurcele nor brinza, mar Munkologiere su ostikoste e a magnatur ser hurcele nor brinza, mar Munkologiere su ostikoste elle magnatur ser hurcele nor brinza, mar Munkologiere su ostikoste elle magnatur ser hurcele nor brinza, mar scaladele for transmere te fillere scen filoste filos faire a prese transmere para fin leventle; te con la bladele kur Marcelence se la filosta fragen le pilo con a bladele kur mar ale ser prese for the series and te pilo con a bladele kur transmere para para for the series parale for leventle; te con a bladele kur transmere hurden serie presede de filosta fragen le pilos for the series the series transmere for the series for the series and the series para te blacker for transmere for the series hurden for the series le more for the series the series the series a preseder for the series for the series Reache for the series the series the series a series for the series for the series kan the series to be the series the series for the series kan the series to the series the series the series for the series for the series of the series kan the series to the series the series the series the series the series for the series kan the series to the series the series the series the series the series of the series of the series the Erile Jesser Rele & bar ander, lea ebela, me dikgele han bone the humber inter in the plan bulley: interior interior in a prophetic in Kgelegele a ge bona a kinge interior interior in monthly a paint interior interior in the saile ace gaquee ge Kelete Duese. minute, a mathematic in the and and the the These leacher Kana Seampony Erile Ge board Maria denne barryette a bei ge the interior have ge to theman ve Baquela sur koo Paulo a las guerela Kreati paboutre de le Maro ha forette a iteratiolola tha herder ba di bareta mune Bernheugen de forette rate de anis duce ter to la bitikologie lefate alte ta rate for the second for the fore of the bar lelekace Ma dut to a moregen Bhatein Ke geer facto de silas ha segue a bourge go ye Berea your kee bar ye Ke geer facto de silas ha segue of bourge go ye Berea your kee bar ye Gegera Keva pensonstery me Barreda, ba accogelesage dea Matolala barter to be to rece le barredo da Rodrenda, Ercle fa Barreda, la Unolada tako to bera la tuto here ja ga lanto teste leta laka og kule que derai a Hura hyptroe da da go hudua baler leta laka og kule que derai a Hura hyptroe ke gane fu badunedi ba sigwagen Paulo go ya Alleins. Ga dala Sylow le Tucattley kaoo Brock of lloi ba luco labela bi duiti duod Alliens a gakgamatoma du delwanter star undernio goor de tekamelo yee preise, nunce a ganthomin de Antenio more disenegogeer hekamelo yee preise, nunce a ganthomin de Antenio more la taxalege duo degatle long the particular and prokan goor he petrokaplok de mækti son mædnes e mega jærka Kreste, lea með ssa kon Ikabeng nju derrakanels gore ag tiathelog e true taul a dæ jærda ka tled me Iva born venna Styte tin fræge væ barner lea tok ege ka ere dra mi Unektembleger tertthe fre ese Dionspurs te mesaði Damarus de bauque sugar fala

- ... ~ Amale

but no suitable applications were received.

The hostel at Francistown European School was completed. Two additional classrooms were completed at the Teacher Training College in Lobatsi. These classrooms accommodate students attending the Primary Higher Teachers' Course which was introduced in 1958.

Approximately £1,000 was spent on improving accommodation at African primary day schools in nontribal areas.

hampered, as in 1957, by further outbreaks of Foot and Mouth disease, the control of which engaged most of the activities of the Department during the year.

Under Subhead "A", Item 1 - Vehicles and Equipment - an additional sum of £7,000 was approved for the purchase of six 5-ton vehicles which were essential in order to establish and maintain a 70-mile cordon on the Bechuanaland side of the Molopo following fresh outbreaks of Foot and Mouth disease on the Union side. No progress was made

Ka Trace a later a allantehana de house forgo jokke, a ba a jundes in / ... moraquee sea barnhuea My one ac ole mora thereag a a keor godinad muce a puece. To puece to a facel a ya kios ka durad (20 mules) - a Kopasace geve se bakanlenger bane to a ile ka gekefec. Jaane ta ga mene ogo kora Matetere

Eje free Alteries Paulo a you Karula. Karo a Kojama le mojudi Akwele le decesate recegaque Presille des ba helekeleren tere Round to Bayudia. Da bacquis de Kauson Claudeo. The Round to Bayudia. Da bacquis de Kauson Claudeo. The Ra bale baderi da nucopper Jackri and Pacelo, a nua sabo singlas le tunico to tago go goog. Often Jackri and Pacelo, a nua sabo singlas le tunico to tago go goog. Often Jackri and reado a nua sabo Canon por por por for Jeser « la Koresta Mune « vile Bapeda ta mo Made baba trunel Made baba trunel Made paba trunel Made paba trunel Made pata serve Modela de Made of the for the for the formation Le 19 Kernesse Made a Mune to possible a forma to the formation Le 19 Kernesse Made a formation to the formation of the formation for the formation of Mune to the formation of the formation of the formation for the formation of the formation pekuse mostledi ales a telessa kgetse nje bone ka ba Reksika pue fela ta sa Dupe Isheney she sprise a forecare de Notage an outer se Gaucio a boola Ku Riffrenda le Provoelle - a gorage lucon Efesto a ba flogela gora a resa 140 deseccongogen - rivero a flogge a ba flogela go ya terrer le Mosefiele war ga lobaka Baulo a here a the seleng gape - a tratache Refusilie per Galation le parterique que Kgellichedi dipheillicop tie enc a de Alloande pele Ervic a sense kun Eleso es amoquía baipoloudi Her go ba baqualla run a una gour durgage de le troord a prove leven page hoeste gore le ublivat no tikelogener ofokle you Efes 0 - a diver dikegorkagenerated the pledeso ka land jæ ga far Kraste. Bartshusunalse bacque erele to henroge hoo pa gergeoe tare bar theo atsa sue ba itsteges table Sena pe sucreen pe gola Matic ga Alabeloga ta le a bane ba kantsi ka le bantsi ba kogala ditsucter le morakan Josa talles ha Fue so le Erashis houdsain hagazier a vane ba Janua Paulo aphgabagarepe levake gate go stete matcoura janua Paulo aphgabagarepe levake gate go zer matcoura janua Paulo aphgabagarepe levake gate go zer fasso. Ka siako assia boole formolecete eue a pa seise uno Efesso. Ka siako E Deurstoio, stotheide per pelepera zer o durareg dissurantelorepa tree materia do per kingele za ga Diana anne ba oi oetese bapatse materia for dura sheketia fa theolo que ga facelo e ngotta fapadi ya bare pita go dura Sheketia fa theolo que ga facelo e ngotta fapadi ya bare pita en a Shoke tota bake nee heider go ge ge Deana - modicer coa dischor falo ba perga pherefiling neo moken og je uthere facto to takanlengues ta gran hall a ba toker or pakanlengues te takaculangues ta gaques bejehoto la tokovara rakantergeres te takaculangues på gaques beteholto de portes lo pello lo Parte o sitie 310 eleso ta ga faulo ka mackaelelo ~ go ba uttresa botello lo Parte o sitie 310 eleso Torie maganegame a pena go klutte Tacel a khelela tuca yorefa, a etela Torie maganegame a pena go klutte Tacel a khelela tuca yorefa, a etela Torie maganegame a pena go klutte Tacel a khelela tuca yorefa, a etela Torie maganegame a pena go klutte Tacel a khelela tuca yorefa, a etela Tereka a nua kqued: di le Mario goue a Kythretsafnuce jarue a boela Tereka kon 'ya tupo tour, ka you kela re o tsileneg Ka you jo patilier Ke brukanling ba gaques go yappitelene ka pekepe fa feta ka Rioso le Samosa dor taca Here mileto Moo a biletsafboontacance de bakareleiga de lagolinane to thuttup keen yeso a ta hog laa los bokloj a ba duulders ka ta Albafato Kyothatica ba

matoke a ka oni a durdenej Predo/gore a Marthelche bake go kejotoketan de go belar Slefare e o stile ke one a a pateled trace og feser

the Department and the public. Chemical work has been directed mainly at the analyses of groundwaters in connection with potability problems. Assays of samples of manganese ore have also been carried out.

Work in the drawing office has consisted in the preparation of some 60 maps, plans and diagrams illustrating the results of geologists' fieldwork. A new provisional geological map of the Territory to a scale of 1:1,000,000 was prepared and has been issued with the Annual Geological Survey Report for 1957 at a reduced scale of 1:2,000,000. A Departmental publication, "Records of Boreholes", comprising the details of the first 50 core borcholes drilled in exploration work by the Geological Survey, was bound and issued. The records of the Geological Survey for 1956 are being printed and will be issued early in 1959. A report on the Morapule coalfield area is in preparation.

10. <u>SCH\_M\_NO. D 3046 and 3046A - DEV\_LOPM\_NT</u> OF \_\_\_\_\_\_OF

Contribution by Bechuanaland Protectorate Government .....£35,408 Vacancies for teachers and for inspectorate staff were widely advertised on several occasions

but / ...

Ka Khubalo ye mouser . A kgasegaror le bene goue fa e se fuka fila Z! Ra hunder Mileter Allefet page Paulo se letile Kora sa fela Ka Roden de Patara, panoi ba palacum settepe pa finision go you of thema that I have specia jure, le kina Ritolomaia tetuar Kaeserea de Kini Kupers Deren wee, il kun hitolon ain te kun for ope of hear kar prisalence, Hear excelence, socien some kasserig it kor paganythet the fore to have be tame to dumetic foretter adte note o gaganythet the fore to have be the begins to here the societ and the note o paganythet the geo hoi constribute boyers to fileoboge More le wolar to here here ster o texeletanya to deleo gove to fileoboge More le wolar to here here the geopeter the deleo gove to fileoboge More le wolar to here here the geopeter the deleo a to be to the the boyers a to be a file the new geopeter the advectance of the boyers we here a looked the me geopeter the to make the prove of the fileoboge machen be use geopeter the to the fileoboge machen the here of the deleo a to be the the to the the to the the to the the the to the the to the the to the the the to the to the to the the to the to the the to the the to the the to the the to tobliche poir gaque le Mabelogo Jegaque - muie ba me reefs à taqua totrace que fillelog of sona l'alillo fa a le moaged i loa bogosi poù hours i nestro yo a nang le ditstenanche fi the toa Barona Fine masole a herna a a geroger, a nie golegie ka dikikacie ja nie precla Kwa kagong za batthabam, tatho ta sa setor morago ta upic ba goa (kwa kagong za batthabam, tatho ta setor morago ta upic ba goa (kwa kagong za belance Oiler 0 &1/30-36) Hure side Tailora Kofa mong kea (mophato zor a buc sengere in bake a re modune e mo rounie kon go Badilshaber a re modune e mo rounie kon go Badilshaber badetitated. Evile a bua lefoko je Badetikaba sako ba sakoplai ba talana Japila succlulo - ber goa begelo bagu a a bolances. Sile Paulo a seine de sa strane gape fa a de mohenna Ha Kago ber Ence me markachlong a ge mo seola, muce yaque dece recorreg heland. noa mophate a bifser d'Allego too bepreseti de dellagotta potte go ta a suffice medialo per ga Pordo File a theorethe unlaka Thogo of a baseous Baradukai ta lakgetta ba demandeman, une Bafarrosa ka ba dabobe isog le bacagele, kanat Bafraras boac ba una slos - jalo letigetto ja Kgaogaria ka bagare. Ka Paulo petie nee kageng sper bakhabani erik sue neesong deane, je go mitta hundreter ja pala, nece mong wa mophato a neo roundla kava Chacsarcon ka bathabane ba le 200, bapagaerei ba depitre ba le 70, ba taa monune la le 200 = 470 + trasp of buckden. Kacsania 70 m. foren ferende moschele 3 Adol Erile Tand a bode Jereescelen hoa befolo a be ale boys a succession we uccepting ya there a labagance le mathata a contregaine a dittala, deplecto, deputa dititée, dinskuraine, disque tictee, malwetsi, mascobi matthaper. morrece e de messioen, matthe ou sa leone scutto. Telo your a le Mager, mogopolo o le nucles marca o Alvafalche liño, muc e que a feta ka Efeso a kuthera fa a la hera befelo a that parroya for, e le dura défeto a fla bouque le bouhveure.

tea gacque

was in excess of 7,000 g.p.h. over a 72-hour pump test with a drawdown of only 80 feet. Assistance has also been rendered to the cattle route drilling in the central Kalahari area and the Department has been able to prove that in certain areas of the central Kalahari it is possible to tap potable supplies at depth in the Middle Ecca Series sandstones below upper, confined, saline groundwaters, but difficulties in developing these supplies and sealing off the saline waters have not yet been overcome. The Geological Survey also developed a new cattle route in the northern Protectorate from Dukwe Quarantine camp to Shashi Siding. This cattle route is designed to facilitate the movement of cattle from the north-western Protectorate to the line of rail.

During the period under review 124 boreholes were drilled on sites selected by geophysical methods by the Department in various areas in the Territory and, of these, 83 boreholes were successful, representing a success ratio of 71%.

The Geological Survey supervised the core drilling programme which was carried out by the Public Works Department to investigate the foundation rock of the proposed Mahalapye dam site. Pressure tests were carried out and these show that grouting of the foundation rock will be necessary prior to the construction of any dam on this site.

The laboratory has continued to provide chemical and petrological services for members of

the / ...

- 18 -

ええ Excle a pear know wetten (ferwoolen) a fittel. a mpayaicla bables der der tilling mother and was feulatione (first fruits) jacka e se Alwals. Kapela ba sear utilicity sobelic toa defects her Buygot to boat i de ba les heleng fa nereous rice mesefulary ya gogloe, kaptsa ba lon baganetsante nac - kgebser a ba renkge muce Mart ber Kopanon nac Kier forwalcure, ta eletsa go quesiclasobra ha go no secla katha jo mandanda de boue Paquée la Efese ta o forfampent nence ber gausse the put too bos muce ikaddeler ge une gagacethese The Racoana o afsi no kaplegelang dungaga di te muca sufa ka sollalo ja Banda ba no sala Tudi a sokisuon fu pele gee melacido Teluje mare le fa a schokele go bana notalo no go and f munsets we kgelegelang ge duraction bayeda. Evele felix a multice gosele gable ferthis governe had uncer a not thele weather Bapila the percesaleine the bages Paulo mellato a la nucestri e tra palpismaio de qo e supela mare Pacilo a chardeder pula fa puo ya bouc ele ya sabaletso. Tale texte picture que logi Agrippo Hered it megabie sea hausade neo plater que lorig the este o theobroke Bandet hage "o letslutero o ferukuller no Banden le ned klabshies jotelie", ebile o Hlogo jya lekoko zakreske ba s leng baitskephelode ba lengele ba leja gore a ba neehoe ta z go menologo ou Go le Hotao son Bajudo ga Kan o lagela gote kfære her here tota e le flædsære ] kfære here here tota e le flædsære ] knile a sthatteleforangelse sekoppla befskile ver gægne pogiste sogiste sogiste gæ leaduned fillælelege på gægne i nære sog sednære sog gære kvæste to flesser tæswi e flæg spice o e loggedunære se gære kvæste to flesser ye o belektering modification to be profile flate the file of your a down up to the prover to the for a file of a go bound to the plane to the stand of the stand go pip lacable fa ple ge Kalsara

by contract in 63 boreholes of which 42 were successful. Contract drilling began in the Bamangwato Reserve in February and by the end of the year a total of 10,021 fe t had been completed in 34 boreholes of which 28 were successful, representing a success ratio for this area of 82%. Drilling is also in progress in the Bakgatla Reserve where 35 boreholes have been completed of which 20 were successful. Since the start of the contract drilling programme in September, 1956, a total of 55,451 feet of drilling has been completed in 203 boreholes of which 128 have been successful. This has resulted in a total, tested, potential yield of 99,875 g.p.h.

J'irile æ Jena go benie know Kacisson a skhuteror fa file go file a link P. or araba tota a latola fa a ise å gamele he ofte de gover loki de s se pekusedener, ke kend fa ho borge ga base

> Surveys in connection with underground water development schemes have been undertaken in Ngamiland and in the southern Crown Lands. In Ngamiland, test drilling under the direction of the Department was carried out in a proposed development area south-west of Lake Ngami and contract drilling is in progress in the marginal Hainaveld area following site selection by the Geological The Department has also undertaken siting Survey. for the Boring Branch of the Public Works Department wherever possible and particular attention has been paid recently to work in connection with the Lobatsi township water supply. The Geological Survey is investigating new groundwater areas lying some 3 to 5 miles to the north-east of Lobatsi and has been successful in locating several high-yielding boreholes. The highest yield obtained in this area was / ...

\$3 othe fun Italiai 27 gaule a succhange le magolequer a manque ba acolet filins, los palamer pellepe se ya bollone. Sa fete Sidona fe Respero ka fetela Kwa myra Koo la popped pekepe pe sengre se a Stalier, ba banaa malatsig. manter no bollide of much ba Aseria Keve midio nowbu hie follower for the light of the for e e forthe gone was le little te pala come printe with tandon ganden notania and models gone was tea fillie Kuon fail Haaca for the polyguine right and tensority tea fillie Kuon fail Haca for the for e e tokkethe yet planeter nucce ba pakara le fliefo e e tokkethe yet have no paketer pekefe Kuon kanda of the tokketa thete mare under the marine of the for the tekketa thete yet matation to marine of the for the tekketa thete mare matation to marine of the for the tekketa thete mare matation to marine of the test of the text of the marine matation to the coord and the test of the test of the marine matation to the terrest of the test of the marine matation to the test of the marine matation to the test of test of test of the test of test Thanks Ha Dekepe - mare Paul a lea nametho to gove goe medice a mer peledebic gove gage Kette ge seen ope Erile norage ga delecke di la fiede Battic banc leale 27 le . Dekile pour l'élucerie de resaeve kon trase sa ticleque . mene leolle pour la se hogen leavy ac that go papo tea baugace Kor qe palaenor dipatoka per poliche se so melita Hudschgeleer neue ba tshelela Keon Melita \_ la aucey sterlege 26, Ballie ber Michibi ba ta dunda ka betsala je boqoto ijo ba sinclebe no puterg le service. Sule faile à servi go quallela, yare a lassa dikgong a longuoa ke noga e favor mes go tome, neuce leanni 3 ter melitoi des gakgements a pa sace rusage le grace à pa dese he Public mogolicani soa fekhaka ka wake a a lucala mare fanto a ded alafa abor a fodera ta la bacchi ba banc ba porala Evile accorage 'ga disqueed i di le Maio lea foreiraye Ka pettepe sengure grya puratuse le Regunera de Putcoli. Koo ka pagologie sekte me ba ja Rouca Ka dunas, yn su gaufi le mobie de Má go kgaktiaallucer the badmardi ba dance . Here Genera Garelo gar atta a fati a lækkelsen see flereg næ kaplege. D lettelige ge nyra a le est le sta Netklabaning o dred disand i ha puky kaga fest - tut on the opoleatment of One a elekval he bake ta le banks på undeletse fogsto kakdeste malatsi se are a ka grenelor Jesse kreste. Dangvar to thekologa med kontri por klotka go duceda - macco Pacelo a ple petetogola keore ge badecheder. Gaule o note during og de le parti nero uttureg 20 e hunderg mene a firsta fronte ba ba ta tareg go reco tileta ka que ferre and the top to be ba makan, makgeba, kapeter, kaktette-Botthe ba ano, thegele ba be ba twile tebo e noka kgotsa ba thabologile, perka bo mesino wa Kolosa

friable sandstones of the Polo Ground Quartzite (Timeball Hill Stage, Protoria Series), which constitute the ore horizon, below depths of 60 to 70 feet. The company were working the occurrence by opencast and quarrying methods but have recently had to suspend operations there in view of the low average grade of the ore, combined with its high silica content, and the fact that once the overburden of shales exceeds some 10 to 15 feet in thickness stripping of this shale renders mining an uneconomic proposition.

Systematic quarter-degree square geological mapping has been carried out in the Palapye area and in the area south-west and west of Shoshong in the Bamangwato Reserve. The mapping of the Molepolole quarter-degree sheet in the Bakwena Reserve was also completed. Reconnaissance surveys have been undertaken in the southern Grown Lands. During the course of water development work in southern Ngamiland attention was paid to the geology of the Mabeleapudi-Kwebe Hills area and additional information was gained concerning the structure and interrelationships of the various formations present in this area.

The Geological Survey has continued to undertake site selection for and field control of the Territorial contract drilling programme in the eastern Protectorate. The water development scheme in the Bangwaketse Reserve was completed in June. In this reserve 15,995 feet of drilling was completed by / ...

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Machange Erile u or go ga dunger the pede for kgoleorp Paulo a better or nu op selse op fikkeber a sena niedalo ope - nie e a got flore f3 parie a sincettle ge ekila diphiette or kin garfier kion teron alra thene for dieger fan kerden the greek A a baa a ja Some He gene ha hialto e fa a kroala diktivato p Timber Like Tito kom he kerde je koseleker te ge kyrthabso Romit her gagier kom he kerd ge koseleker te ge kyrthabso Romit her on tero Erike er por siter a sphimte me hereige a a klorala diktivato p timber je koseleker te ge kyrthabso Romit here fan en de kerde ge koseleker te ge kyrthabso Romit here gage kom he kerde a siter a sphimte me hereige a tero to a far on the korden e here ge te siter a sphimte me hereige a tero to a beter to a tero to the set here ge te backseete free back of the con the to a korne o tike mai getice à plubelece le Baltresete letti Totre gaprie and & publica Ke Nero - Kauserer you Barlound yo a he a to topofalle de bottlinge pour botsens Paule a lattleleva gape we Roplegelour, la valko e D Paule a lattleleva gape we Roplegelour, la valko e D huvadili fothuealo hoa Bobedi go Tuenched, we to Ropaon go neo leressi kobangana poina pilokopie no gad ga dipete go neo leressi kobangana go me duese we letsuched pa nerig, le dikwalo hi dipancipit gose a stie Kon go Kuvala la gore a the go neo kholor ka a be mo boduling poogod ke Kuntanfalong ya to Khukago muta k do supatela is bouse pine due gore Gaulo o he a petuseo a suo kappleers you goe Nito make a attestelever loso. A gogehoa kion ute oga metber a goagonoa ke mattakala, mune spore ko a Kga cheore kliege ka selepe A neuerele wa Kgaoganee te monor soaa swa . Thoway he dikie tha ge Pacilo, the incar tha pholee di bua di sura di gomotra di Kgothabra di mulipere to take gougoe le gougese kana leene pe que krethe. he manachinance good. Gaaka a bapoluse jaake Jesu Kocste le paka Schoe . Tapels enc e le ye basing felo le makgeber ta e being Barare ? Ini a le poles na dekkourg de tourjatse. La Paule ene ele magade va Rans ne se mortonna tha Kago, one a bolancia ka go kgaoliora teleogo Jackse Barance basic ba balacon Kancolao wa Roma, noto e me e He e ra sua go bolawa mult setoto pa gaque la neeliog ba ga gabo incure gone que direver falo mes go taulo le dece que taks, pla parte que que derand man que fera Kreskle, me boo barano ba fikkena the diferrala tra back

and the quality of this coal is normally better and more consistent than that of the coals intersected in the upper zone. Calorific values of this lower zone are between 11 and 11.5 lbs/lb and the ash content varies from 10 to 15%. The Department's drilling programme has proved that both the thickness and quality of these coals is consistent over relatively wide areas and in the small area investigated to date a tonnage of the order of 25,000,000 tons has been proved in the lower coal zone alone. The Department is currently engaged on shaft sinking to obtain bulk samples of the coal from both these horizons for analysis.

Core drilling was also carried out in the investigation of two asbestos occurrences; a chrysotile fibre occurrence at Naka la Phala, south of Serowe in the Bamangwato Reserve, and on an occurrence of sicilified crocidolite asbestos in the lower Griquatown banded ironstones, north of the Molopo River in the southern Crown Lands. The results of the drilling programmes in both these areas were disappointing and the geological investigations on these occurrences have been suspended.

The Geological Survey has been assisting the Concell II company working the Ramoutsa manganese mine by underlosselest staking a core drilling programme to prove the exisfolging tence and tenor of the orebody at depth. Ten Colasses relatively shallow core boreholes were drilled in the area and these boreholes proved that only very hilppe minor amounts of manganese ore were present in the Twick, IL This friable / ...

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Discioalo ba ga Pacelo

Diffuedo bia que Paulo tre di no Berbelleno de 13 Re Boromon, Ballonaler 1 de 2, Bagalatere Baefessor, Bafelyn, Beldons Bathesolouca I le 2, Durotheo, 1 le 2, Difo; Filenouce . of Ralefelthi ta Dilloralo toi di bortshope palle Di la Gralizere Stoggie base ge dundeseger gore ko utle ga dekvelo to di 13 tse Paulo = theadelle fic dunquae di Ka nua makques Ryster matausacher, the di latek eqilences I.Knas your Bill I 95 Enknode tecde 13 di Haralebser dekerette, le batter - mo likelogoeg & stoward Roace go have has her muss. De Kundelwee und dunyaque q di le 16 52 A.D - 68 AD - Munc Gaulo o di Kwadele alunjag de le 16 a sena go thabologo One a le dungager de 146 fa « Kwala lotterale loca utilier, a le bit a twoaler liver bofelo : Di Marangeru praise Thesialer I le a Batterneta I le & Bagalatha, Baronedel Baplipea Backara Bakelosca Filenon Tunother I Tito I le Tunether the sander of the Kanafe ya Kgolob me Kastankonet Tunether the sale 53 657 Le 58 Ka noto ya Kgologo ya Ka dunyaga 53 he 53 of 57 Le 58 Les ha noto ya Kgologo ya Ka dunyaga 53 he 53 of 57 Le 58 Les ha noto ya Kgologo ya no nakang ya Corula Moschele war tobadi Kor wate ya Hosepele wer borose ge kgothatia neo difequera Ka gosla ga therene jo ta suppor Alcafalo le To super go tokresti levale son goques go fu ga to Kake from Alexandros Jakolola good toa se boole no boude qu'he gave How needquared you Scharfor teleso e la ka luccolo go to ourdery that before ilyo Jo be gowofin and duck have France Thesalouracer: Badickate, Bopola, Bakytha, baderi - St Kurakehere al Borock 52. 53. Conteres Bakrouk Badichate baluccare and any 18 m Fles Aby Boariandi por Trogo ye Hoceco Concluses Balrowk hadreliabe balrenaedi T worken from Eless 57 Concluses Balrowk hadreliabe balrenaedi T worken from Eless 57 Galahan North & South Fauls glows \_\_\_\_\_\_ 57 or laker maccoore Renames : & Genehler Jews freedon of level Renames : & Genehler Jews freedon of level Gelessian J Genehler Jews role Gelessian Jews role G Huleffine . At prec to recuacincusale and passes 52; Thanks for kinds

25

20 feet in thickness, but there tends to be considerable lateral variation both in the quality of the coal and the thickness of the 'main seam' which thins out in an easterly direction towards suboutcrop. The better quality coals have calorific values ranging from 11.5 to 11.9 lbs/lb and ash contents of 12.6 to 14.4%. Following the work of the Department it is estimated that in an area of some 9 square miles, down to a depth of 450 feet, the total reserves of coal present are of the order of 150,000,000 tons with calorific values from 11 to 12 lbs/lb and an average calorific value of 11.34 lbs/lb. A report on this work is in the course of preparation and will be issued early in 1959.

Tustification : Teluancesco Purfical . Hehejduse Glepartmental core drilling and geological Turchapping have been carried out in the investigation Sauppedien of coal horizons occurring in the Middle Ecca Series Vuncahen: fuerdance Kelstandstones in the Mamabula area in the southern Bamangwato Reserve. Investigations have been concentrated in the area lying immediately east of Mamabula siding and the programme has shown that two very persistent coal horizons are present, separated by some 80 feet of shale and sandstone. The upper coal usually has a thickness of 50 to 60 feet with a persistent, relatively good quality coal seam of some 17 feet in thickness at the base. Analyses of this coal show that it has calorific values of 10 to 11 lbs/1b with ash contents of 15 to 20%. The lower coal zone carries a 7-foot seam and / ...

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26 Tore up galarelo Obidiner Metaeschebri por Badecheba Ino ya gaquee a kyola a me ale que super opre Krosto goi a tetor papeter place of the toe ballo to the de to siercy bapedor de que perfronde ja se lunde e « Allonchelioa, nos hur olon pr papida de næligion per pepida - He mindo a mola a é Bapestoler de takreske tale bachi banc ba gopola phiendland Sepuda for pupeda & nuce pero Kapro Nor bolloude - Badreadi ba for accorpting peteresche ba diragte principação que depeda pele ta pupusace - April Geleke & bomon ka Tumelo, eserg ka Paulo o prejuce April Ale Ko & bomon ka Tumelo, eserg ka tragation a fuedad. I ke youce kgaing a kgolo a facil io labagancing la spece. X Karabe ya gageoc so go toabueleou ka Detroiche por be the the there Dekreiseli på pe fudar 14 Mekgoro, som gælfseste i gelete sealundi and Jekeing the melar in mekgion you pefeeda Kernster scopie e martle, morie son delire sie ductsi, de methander tic Alfener le Schapedi, le pheperd. motre sea reconforche Bayfen, Baliercha, Barocca, Balane, Balafraka - motre jord betagjon le markafalt k bogoder le modre o Hue gone Kor Paule a Hereine Kercke groce the make har necesafiele nea belæde neo dikgnider får di 18 tor e di artseng gover 52.53 to it merer le topela ke Gallio roker megope ya dithai malo - a pakisuo a goal, ka go Late flatuera ke bajeda - une e a aillesteleda - Goac a Balk coalour I le I, Baterente, Kappa le Ba Galaber haphuflicge e le badiebaba bogelo ta baderi le battleite tà ta senarg lucto e kgolo. Trilca sena go ya Epheso a Kwalch Bakorinta lekoalo 1. 5740 a la manupetia safufa le dikouxad, ditskeko, A kwala Bakerudij a le Rosa Makaloma 57 Philippi er Mischaule Brinda ta tanc ba pliabologichic suc petraste q' banc ba promiser le discoche bie Real o di Manuskieg la jara gore Adduchater ba la que square kratte ta placanche que ba rupismie tabo ba dragelé nelac son que more. Ba matin halo ba kgele tive ya gaque ya go Kelelafia Badreliala and ise to pupisa i Bejahra je bodha jara peterciele ga be kalle jura kikelica no mefalang encegolo golo ya pe fecto 2. Helen se se ucha ye paksaske ga a kalle ya rickabelica mo peopositioned be be outside to people the 36 3 Jang ic lefable park to Kelebethe dechaka tookk

been extended to cover the whole of the Bangwaketse Tribal Territory. Following the award of this grant the company undertook detailed exploration in all areas underlain by promising geological formations, but the results of this programme are not yet known. In the Bamalete Reserve the Ramoutsa mine had been closed down by the end of 1958, but the company located a further high grade manganese ore deposit on the north-western slopes of Ootsi Mountain, in the south-western corner of the Reserve, and active exploitation was in progress at this occurrence by the end of the year. The Marlime Chrysotile Corporation increased the production of chrysotile fibre from the Moshaneng asbestos mine in the Bangwaketse Reserve to more than 220 tons a month and the production of fibre during 1958 was 660 short tons more than during 1957.

The Department has been undertaking a detailed investigation of the Morapule coalfield area, 6 miles west of the railway line at Palapye, and by February a total of 5,128 feet of NA size core drilling had been completed in 15 boreholes concentrated in an area of 8 to 10 square miles in the central portion of this coalfield. This contract drilling programme concludes the investigations which have been undertaken by the Department in this area. The results of this programme and of earlier work carried out by the Department have proved that there is a persistent carbonaceous horizon throughout the area at the base of the Upper Leca Series shales, which average 15 to 20 feet / ...

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Baapos/dor Q. Mark 3/14 Muca Alhada tale & gove barne nee the settleffloor pa baarce bal. C & tra ethopholes of a ba marga ho - fe of their there he you gaquer he go server malake a googler. The a he balks ta le 12. HEARING à la maya dilottole Asin pueleo, nuere la go to phelda moncon ao boukkepp a ta marga hati ya go lata torek yaganje le ge rescha lefatste jettles Erile a siene ge flladbige a ta nomela monofo se gokagenskong "a go dera dikgakgomele Ke balio, ta barbouyer, Korene, le ge ka bulja ka brojo yer gogioc 2. billditmany macane as he are JE 3. buduluksweig across Erb go ba puta 4 ta ucheccog Heata you go dera dekgakgamal Ø Getere ye pile o sica biducon person a in a de morros fora. Minagre que a muchave gepe se Bubelog. Oue a ma le sur marce popue Hadres. Banc ta agile pele tion Billesais fa levontleap ja Galiko, i le tablevar for difficile The sec ber patrice Differento the de Britskeffed Teskercerte te Kaptergele tega ha me ter se barrebegi leg bagelo in dikuarlo le melao Bagalilea ene ele talle la ba malega ba ba bondo la ba cichatelia trà pue le mogépelo de pré-marc Repoi enciele mogalilia teti . E ne a ka maja duoma wa 30 fa Moraa a kopana nat, a mystre, a le petto Kiva Kapernance. Legenna motshwa bako Jesu o munditió a pluvaria dittingo qo mee pala keemeroj uccoro a dera plo, a town mochapele, le molonee, era brapeslobre Enc le Johane de faktler barner Zebeder bane ba ataucéditar kaka Ke Jesu jakor a babakela murche Kwa Trabang e e Keca Ikoko te jækka a de mee kheelsagalang Have Tethedancer Falabeta Seja a ne a ikgagelaka ika go ipolela lovelo kon gagioe, o ne an Islanda itatola lesu fær de net diatleng ka babalae, mener no Tslanda there a ne a spillage clata twa pupung no moving wa togo va Mercue. Takre to apre son bolade yo Haran a suce ithen beforing a Dena ge gula i Dise up gaje motion o mo kgothadibeng Ka manko a gore Othi dikurana ka me ta guri o uthatin kakopta bahaitane noragi ga boo ya ya ya hur ke en wa atta yo o rentengtorese a khakopta bahaitane I ne a li ghil kisa thireneg oga folline are ga ferre a thiattopela degelance I ne a ence ka durae ka lessatsi ja Fantekore ga tomata ga a le Gara jo mesa jo o kamagang yo o tomanan Rente oga theologo, Gotawa fe Rente of mesa jo o kamagang to o tomanan Rente ka durae ga ga bala ja Petre fela let. luna Ju punon pa seva, za sala ja Tekse fila - Espor te gore lefeka. A lakkelion me dikgelegelang ga june ka ukka na go nera ken ye e tudefang A lakkelion me dikgelegelang ga june ka ukka na go nera ken ye e tudefang une a pe kan tofa pipe kgotse a ikgenetsa de gaulo, le taferasan de une a pe kan tofa pipe kgotse a ikgenetsa de gaulo, le taferasan de morage o ili go rura Kuen perioria, Maria a bosla Erusalan a Kopana he fauld a gena ge that dega . O dulegere go ya go wa kwa kida le Jopa a Holobeboa Komelis -a bulele Badipheta dikliwance to ta Bottoczate. Norage a Inthetance and kgolagelong gape the thread Agrifia is Kannackastelo a go no kgabla klinge factur Jakoba, muce Moduce wa mo falodesa

Junior Service. All Staff Nurse posts have been filled but there are still posts vacant for 2 Health Assistants, 6 Dispensers, 1 Male Nurse, 3 Cooks, 1 Launderer and 2 General Duty Assistants. These are likely to be filled when the new Health Centres are completed.

This scheme is controlled by the Directorate of Colonial Surveys, and no other details are available.

A start was made on bricking-up the existing Dutch barn at Ramathlabama to provide a farm building for the accommodation of implements, fodder and stock.

When completed, this building will be a useful instructional centre for Veterinary students attending the school, since it is intended that they shall be responsible for the general welfare of animals in the building, milking, the sterilization of milking implements, the feeding of

stock / ...

I' ruboie gove no Repairen ja ferrisalece. go akanya macco a Badielock and Kesthers up ga kreste, made sene le taulo ta goga pluttego Ka lisede ja gore Badichalore da mue le phierecole à a Kana Ka "ga bajada mer kerekeen a lefa ba sa grupa Kgotsa ba rupile." "horagotage & formale Keen Babilone a nera. Polelo yase ereli Anorage gafe a y home marca teapolies the a thousand Ka Altorp Ka fa dentances ja Morance idu U/19-19. Ekchi & Dule Ka ngwage tit, 64,65 kgetin 66. Okwadele dikwalo chile 2 Pikis i de Réder II 2 Johane mogation Jakoba berne Zibeden de Delence mogation Bate Da Ekste Salometenie de monue moria marken He gore la Delence mogation Ande De una lever Bekesanda fa feconflecer ja Gelence Tradeo Zebeder Ene ele nouna wa milikandi - funce toa a la gago o be outilise sealle lefa e se thate. Euc de medshoura ditthafe und levellen ja Jako Chikero taa John - Mokolobeta E Flaka Ka lefetike John ... a mua aconque lor la ba ilena que settera, muce a anega tole a pluerer dillafre live tables ferera mucha de regola. jaketer mure ta Mogela prote le mokoro le lottea hoa dithapi la nepole successor fehence a sur acongoe son borrow jo for One a to atamedição bogolo - a ba a sena morichoacea yo force o me a mo rabi bogolo. Ka a le mogalilier le sue o ne a le makega - Jesu a The Ene de mogeloc Ke Baier ba Marre Enleftere a Isharanere ke bafarasai Jahane de Retoro ba une latela Un completion da ba ba ba andre de la Tohane de Retoro ba une latela Kage spickter be be to atauch le Kwa Tshekwig le kwa popular og na gogwe - nume Jeone a mo laela, mangwe . Ke ene Jole y have magdala a much lettery pele bage ya ga letter - com Ke and yo a taloogulary le Patra go of a go boun lalatha. O ne a le nee palacing à fixie à porta d'itan a reage your - chilè a dua le fekre à hande différent due, mue soile l'étérrage mogdoe à suit ge bolance le troit gené a dua le fekre à hande différent due, mue soile l'étérrage mogdoe à suit ge bolance le troit gené a dua le fekre à hande différent due, mue soile l'étérrage mogdoe à suit ge bolance le troit gené a dua le fekre à hande différent due, mue soile l'étérrage mogdoe à suit ge bolance le troit gené a dua le fekre à l'ou Eless qu'a service de soile l'étérrage mogdoe à suit ge bolance le troit gené a une faire de l'étérra d'étérra de les de le ge l'étérrage de le des de les de a la dora le fekre. Eless qu'a service de la debarre a ya le desponder pelo à floge 7 bie fora . Morage e le le le l'étérrage la le le de l'étérrage de le desponder pelo a floge gape a boda kun Efess sunce a proche goue a ka mua ka 98 a konserva partele: bothe : Me Testurentry e villa ke ene motheredi yo mogel ge latele fangeli. Le Dikaralo dele Maro. Territoi bo drender gove the sure o kwaddency Tshendo kanged base fihance o bolachere Ke Bajuda janka flas ac a muselekke ke mogoloe jækoba goor bæka nva ge kenwele se ene je o Ha se aværet montakgeling a dunyaga ge nhi ge pena tihouracuiso e é Hatsang gooc Petere o surction kuna Roma, nue ka 1949 Pepe Prus XII e beleter fa prefu ya ga tetric e bouaet gone mo metheong ya Konke e kgele ya Stelos kuo a Romene

to 31st March, 1960. During this period the local contribution by the Bechuanaland Protectorate Government will be at the rate of 50% of the recurrent expenditure.

Imphasis has continued to be placed on geological and geo-physical work in connection with the 5-year underground water development scheme which is financed by Schemes D 2639 and D 2639 A and B. In addition, work has been undertaken for water development schemes in areas lying outside the scope of this major programme in the eastern Protectorate. The Geological Survey is also undertaking site selection for all Departmental drilling machines and it has been decided that control of the activities of the Boring Branch, which at present falls under the Public Works Department, will be taken over by the Geological Survey Department from the 1st April, 1959.

Regional reconnaissance mapping was continued and detailed investigations of known mineral occurrences have been carried out. Assistance has been rendered to operating mines and the Department has continued to foster the interest shown by various mining organisations in the potential mineral resources of the Territory. The two manganese mines which were opened in the Bangwaketse and Bamalete Reserves during the last quarter of 1957 continued to export manganese ore in spite of a slump in price. The Crown Grant awarded to the Marlime Chrysotile Corporation for the right to prospect for and mine manganese in a limited area of the Reserve has now

been / ...

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balloto mogolea fohand bonoa. Rebedici le solence ene de mother deflet galiler Eni le terrore le pour ene a bo illa fame du bong habelie ya qui fesse palone maabone o me ce Nofra qui fesse gon a ba nee nouver ap palone maabone o me ce Nofra qui fesse gon a ba nee manero ap kuoa pele me bogosing pou quequor, necue Morrera en pena qo deod muc legall pa a que que a chi de o pe le fare que ha Mae moa percore pana de que do pe bolance ke ba que come horrera en pena qo deod pance, doing go bolance the baga bacc . there ga men jolo Ercle la reporçai son : fakoba a kgathera khogo ke kgozen Hered Agorificia Ka ugeogo 44. - a le sue mospostolor rece sikler PE To na de bo fakoba ba le bane ba ba makwang no Batchen To a prochang morenai ster 7 Jakoba mogeles Jetranco - barara Zebedra ka se broug kabas faktora hienora alphae le ene ricapostota, bether tala Jakota joraque juda akwa nongos wa difulorey ka Konken Gal 2/9 patteber mora srague Jesur. Ke ene 70 Jesu a no ilstantebr Jakoba joraquor, Judea a percor go pula, a theat ologa a bag a detion But of ye provedy (Ke ene & karadilerg Jekodo from ga jakaba int Betelog ana mochafiele and hetereking je sutition ja ferresaken go akarenya dego atthola matura an Bud at la matura da sutition ja ferresaken go akarenya dego atthola macue a Badichaba ver Kerckerg Auckegeer je pikresche e bile a le mospherori va deplapi Andrea ke ene « ne « le metagi por Belisarda la a le monna Petere Que a le receque sua basiliera page follance allokolobetsi, acce soile a uther. Mokololich a pupe Jesa a que le ene desana ya herdand a pola ferre recorrego, renne spoce à duneda gose fair de mossion of Debetancerg no dikwalang a jere magelie Dunne Patrie kesser op and He ene o atameditor of Begerika ta banc ba aletsa zo kojana le tere l'ano 12/22. Ke enc o terleng takou je le ne le tohotse duetque The weight he we go begglo a there have be to be the the mental designed the to the the second of the the termination of termination of the termination of the termination of terminatio despongetors per deseque to the to be ga ga Johance fola He are no one are ga go kake ga brea pepe da mokeno Koa Nazesella secre ferra ununtoo Motoraela po o senareg Sofferfor bogd full 47-48) One a le mo lesourang je for E le ilshou deberg kier fantleing pe Galilien a sera go page Mather, Ene e le mokgehis know thepenare a . Etile litrater lengue Jean a thater mo lengableng a sota gante le matien mue a mo roa age "statole". La bouactes matheura source a mo pala morego, me a mue mongoe son brafactor (mat 9.9 Go bana no letakan po o ne a biducia ka kuna ja tevi nuce paron a etelebre pelo je maken. A dirë mokete o nogolo, a laletre ditale tre popor pa kakaettis. naceto le tornhoacca be ga gaso -ge spoleta fa a traa Tsela e ntila. Re encometimadi me Etergeli y u ga thakken in selinika ka dugap boto. peli ga go kupor ga foquealare 70-go sufa fa sede ele Homa

of his drilling rigs, leaving six in service. This measure was considered imperative in order not to hold him up in yiew of certain difficulties regarding selection of sites in the Bamangwato Reserve, and the small number of sites remaining in advance of the contractor's drilling rigs occasioned by alterations in the original programme.

Government-operated rigs have given a very good account of themselves during the year, although this would not appear so when comparing the results of Government drilling with contract drilling in the table below. When it is realised that the Senior Driller is engaged full time on checking the work of the major contractor, and one heavy capacity rig has been engaged for most of the year on essential exploratory work at Beritse Pan, and a second rig has been operating in the notoriously dry and difficult area surrounding Khuis in the Southern Kgalagadi, the results are very satisfactory.

The following is a resume of the drilling results for the period 1st January to 31st December, 1958:-

LOCALITY OF HOLLS DRILTED OR PURPOSE	NO. OF HO		TOTAL FOOTAGE DRILLED	YIELD IN G.P.H.
GOV RETUNT DRILLING				
Batawana Reserve Bakgatla Reserve Bakwena Reserve Crown Lands, Kgalagadi Government & Veterinary	5 3 2 4	4 1 4	1,525 1,143 617 2,695	3,390 735 1,000 1,950
Services Tati African Reserve	18 1	7	7,646 57	22,509 540
TOTALS	33	16	13,683	30,124

N.B. Footage of productive bores: 8109

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I who D Je & bolepioen of the beprofiti. O a knowledge Bakkneet to Bapida Filipe kenp meanques son baafestoler geeka leber Andrea Jakober l Change le suc sine se le macaqi nen Belisardo Ke mangoe wa beafatet be milio ba que jesa se son ulla de ferre o no preticio are altrefa a lor a fue 42-3 corle form ce menutre que neco datela a setwar la barofo, a lor a fue 42-3 tion de Mathianiel C Mar Molouran Jettoras Me sere you enlang Jesee a & fa 5000 dyp a oc de ka ba thaclela Kgakage. Ke ene yo o amogeters balicocka ta banc la rata go bua le focke Abile ke ene yo o fuleno Horena, + coupetie Kara (puo 14/8-9) Ga ge soucie meschele juge gagval Polet a ya oe ogrerele kær Jeregnie sume yægre nærrego a balanduse. Kare Hurefelosi Jeregnie sume jægre nærrego a balanduse. Kare Hurefelosi Je sesa brag 8. Idmase kerp mærregoe som baafastelor, femære je lengeæ je gægre illede no settletting på budjestolor o aka a vire a fatagrahas the Didiciano - the good hereband Jela le maken not alfore le fallaber motion alfor- the la mo ellete ence le motarce proabé le gore mathan, le Jækoter le Ihonar e le bana ba suonne. Ke ene yo epile jesu æ pe o ye bethan kore losting hor. ge hægoro one fa te eng gore ge ke ge fier fice næl hægoro one fa te eng gore ge ke ge fier fice næl He ene gæle yp o reekeng fer me hokua, ga sie ike kær » gæng 90 mel, nieve preka pre ka e ibre færg i fro lif Theorease o me a peo se from a ibhofefser brafasfoloi ba bærga a pena go guela, nieve a same belælæ solelo yri spræla ga horeer go fikkele fran a no ikkesfeste durtko ski inerafo go fikkele fran a no ikkesfeste durtko ski inerafo go fikkele fran a no ikkesfeste durtko ski inerafo go fikkele fran a no ikkesfeste durtko ski inerafo go fikkele fran a no ikkesfeste durtko soi inerafo go fikkele fran a no ikkesfeste durtko soi inerafo go fikkele fran a no ikkesfeste iner son inerafo go fikkele fran a no ikkesfeste a durtko soi inerafo go fikkele fran a no ikkesfeste inerafo go fike inerafiestolor i po s manin nærdi a a ka kkakangag fikop fena je tergivec ja gaque. Ke Thadao, niere ebile gape ke ene gougies o budnesang finda settine fakota... hume kance go finda yo mongive yp o ne a le norma festi mue kance go juda yo mouque yo o ue a le mours fesse O tel ophegule la go botså jese are the go reug for a the apoint the un proce legale sa se monostoloi. 10 Jakoba wowa abefo the province balling bokk? Job 14 Takoba wowa abefo the preserve province pro o the refelelang banque Jaake janka que prepetrat for gotting etale ene le Housere le Mathew is ne a le bana la mettro Bo jakoba barero neo Testaccenterag e ritche. Util the mon afer the postele a fok eta miogoloa filane - larras gebed - 0 bolarlas ke kood typefac 3 Jakoba monna from yo o kwadiberg Alkane ya ga fikoba kwa biflang 3 Jakoba monna from yo o kwadiberg Alkane ya ga fikoba kwa biflang 3 Jakoba monna from yo o kwadiberg Alkane ya ga fikoba kwa biflang Jesu a seus go quela a ba a mo ispeciolda, mare a toka a be d proce na deputason the Kosette a bar a nue bitter o ya consalara Jeane a bolarbore Ha utila ya taerelo ta la a kapo pladresse. Ka nueze

present resources to import any materials either in the form of cement, bitumen for stabilisation, or naturally occurring foundation material other than decomposed limestone.

Two low-level reinforced concrete bridges were completed during the year under review. They were the Suka bridge giving access to Baines Drift and the farming community there, and the Inchwe Bridge, Francistown, giving direct access to the Monarch Mine and the many farms located between the Tati and Inchwe Rivers.

6.

## 

Contribution by Bechuanaland Protectorate Government ..... £56,442

The scheme proceeded satisfactorily throughout the year. The delays caused in the previous year have been overcome, and the two modified Leyland Albions have been delivered and are proving most suitable for towing the heavy capacity drilling rigs under the arduous desert conditions.

The drilling contractor continued to make satisfactory progress during the year. The overall progress required under the terms of the contract was maintained. By agreement between the parties concerned, the contractor in early December withdrew two

of / ...

- 7 -

1/ Jakoba gorangio c fuda koptan febras Madro. Le ene e ne c se moaf offoloi - Tota enco umaller fela ta den a ja morande Il Semone wattergeleta. Ke morpostoloi po erile a se a datele fere qo ne ma medestoloi a bo e de tokololog del lesoneo ja kopela babe ne ba Holagaage qo kapbera le go semye pero ya Roma 1000 12 fudas sekanota te unoapostolor up o dægeng kala ta go oko Jeru. Banfitteler bokke e ne e de bauna bahalilea fa e se lae ncoraging loa bajudes pla- tue e ve e se morgi voe feda Ke ene ene e le motstinage Kyetse ye madi a barpestol max a le pelo bliethe Erile à presa go etta Acorcia aba " pelo uco rethos to depapettana de le 30 a spolas Awa alle ga baafostelos ka ta n ba ka skloptetseoreg ke jese a Miathias po o schophiliceres de bacquestolos ba bacquesque que esca do palo you bace go devec 12 fa fican Maruela Dense go gola Que à tourigele le jesu je prisa kur Bluedopper pa thère re gapper. Polelo yare le eur e garile Mailà, à Auden Meadle ter to Barmabas Jours son moler ye & Khabeloglengja una molado, wa quitesup à aten atri tambo, ou depa se sur Vin Ali in de ga Jesup à aben alsi tanto, a dura le eux kies fution, a toma le sue fue locton ben utilia a petre a lefatste pa gaques a narge bacepostale madia por porogore po por poroger po c. feulo (Anulo) wa dereso go form e sue utilisen q ay sever po p 107 The you gargier go allers a Paul e Methaner le ye gre the que to to beletseed a ber chese beel we backostet of Turia ne goger har detroit has putrite for a for laced p. Teach Le Aster ja que Barnabars pe ngollege Kolobetsci 2 Fela jacka John Baphol excele a bolcheig JC, a was a and efelodipele - fela jaalis socle fle a totec John Baptit ene ængofleger, feta Jab Bærecabees Barnatas molekanaa Jølen B Bilencopule Ka gobølang Téliatelego par que fateba merio praga fesa a gripatic ya que la tala Jaxoba o godile le fem fa lucapero pa ja le cue, a robala le acc, oc uthou and you mogefold to a gage hunca sa she that etcle a sæ me dumele. D barge dikgangamatro he fesu ome a di dera, more a setter a tatsubeger A una a ingaparete jujeda for le metro bo que nor le de delo fia baparadai tota a la popolos le ditado tor gages Mune will pour a pena ge bapolos a sponatila mo que fabiolos, une tor gages Jakon a a demotor a programatila mo que fabiolos, une

SCHEME NO. D 2677 - RESERVOIRS: GHANZI -LOBETSI CANTLE ROUTE.

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7.

Scheme Value ..... 5,000 Expenditure to 31.12.58 ..... 4,327 Balance ..... £673

Constructions of the cattle route watering points at Tsane, Kang, Manyane, Lone Tree Pan and Takachwane were completed during the year. It is understood that the Ghanzi Cattle Owners' Association are well satisfied with the watering points now provided.

A start has been made on drilling additional boreholes required to shorten the route and to improve the watering facilities, and reservoirs will continue to be installed at these points until the scheme has been expended.

A supplementary scheme to Scheme D.2677 has been submitted to provide for the supply and erection of galvanised steel reservoirs mounted on ten foot angle steel stands, together with concrete drinking troughs at seven borehole sites on the Dukwe - Shashi cattle route at a cost of £2,450.

Photographic work by Fairey Air Surveys over an arca of 18,000 square miles was completed in 1957; no additional map photography was undertaken in 1958. Map / ...

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