

中華民國十一年

揚子江技術委員會第一期年終報告

公佈第一號

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緣起

揚子江自有史以來爲患絕少濬治之工尤鮮概見朝野上下每安於故常不事防治迄於今雖積澇相尋暗礁紛起弗顧也民國八年冬英商會以航路梗阻集議滬濱上其事於吾國政府請定長江勘測之計越歲復爲是請詞尤迫切於是世之識者亦羣起鼓吹督促冀底於成時政府窘於財力卒未報可十年全國水利局遣技正楊豹靈君就總稅務司安格聯君議治江計因南下謁南通張公季直兼訪濬浦局總工程師海關巡港司等密籌規畫爲書千餘言上諸政府請設大會以爲施治之備閣議下其事於主管部署歷時屢月迄未定議會英國著名工程師柏滿君來華總稅務司介謁內務總長始協定攷察長江之計因賈柏滿君赴漢而以楊豹靈及海德生兩君偕行抵滬後成報告書一册請辦長江一部分測量以爲急則治標之謀維時高公澤畲來長內務披覽原書極是其議而督辦孫公慕韓張公季直水利局總裁李公碩遠總稅務司安格聯君等共相贊助因呈設揚子江水道討論委員會於京旋奉令以

高公爲會長而以孫張李公等副之復咨主管部署暨沿江各省派員充任會員創設伊始輿論間有不得其詳而妄加抨擊者幾經剖解始獲翁然因議定設置揚子江技術委員會專辦測量十一年二月技術委員會舉行第一次會議議決測量進行計畫並聘定美國史篤培君爲測量總工程師於滬設測量處並分設流量地形水平各隊由漢起測歷五月餘成報告書一卷圖若干帙爰與同人分編中英文付諸手民冀爲中外留心江流者一資參酌第念江綿亘七千餘里路迥流紆工艱款鉅區區圖帙雖未敢自詡詳審然中外熱心諸君子誘導勸之功與在事人員辛勤從事之力洵國人之所欽佩而本會同人之所引爲無量光榮者也謹詮次其崖略如此惟

宏達君子進而教之

揚子江技術委員會謹識

揚子江技術委員會第一次報告書目次

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一 國務院函爲全國水利局呈請明令特設長江水利討論會一案鈔錄原呈請會商

見覆文 附原呈

一 會呈大總統呈爲會同籌設揚子江水道討論委員會擬具章程仰祈鑒核公布文

一 揚子江水道討論委員會章程

一 揚子江水道討論委員會會議規則

一 咨 全國水利局 籌設揚子江水道討論委員會一案業奉令照准照鈔原呈

暨章程各一件咨行查照文

一 咨 農商部 本會籌議揚子江整理計畫所有公私圖籍請廣爲蒐羅或備價

揚子江技術委員會第一次報告書 目次

墊購寄會以備參攷文

一 稅務處函內務部揚子江水道討論委員會擬聘用英國工程師柏滿一案茲照譯

總稅務司原函等件送請核復飭遵文 附節略

一 柏滿工程師視察揚子江水道大畧報告

一 委派會員名單

一 揚子江技術委員會組織規則

一 籌擬整理揚子江各項計畫報告

一 內務部函技術委員會應需測量經費擬請財政部就關餘項下徑撥一案經國務會議議決照辦鈔錄原案請查照文

一 技術委員會測量經費提請國務會議議決文

一 總稅務司安格聯君提請公使團核准揚子江水道討論委員會技術委員會測量

經費文

一 外交部咨復揚子江水道討論委員會議決暫設技術委員會測量經費擬就關餘撥用一節已得公使團允可文

一 函稅務處揚子江技術委員會呈稱柏滿工程師請展緩來華一年等因函請查照轉知文

一 函稅務處函達本會辦理柏滿工程師原件第一項規定之大概情形茲附致該工程師函及聘函各一件函達查照辦理文

一 函柏滿工程師本會現已成立正式聘任為諮詢工程師至來華日期由技術委員會逕商酌辦檢同聘函函達查照文

一 函聘柏滿工程師為本會諮詢工程師請查照文

一 稅務處函復聘用柏滿工程師函件業發由總稅務司轉交該工程師察收請查照

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- 一 揚子江水道討論委員會訓令英國工程師柏滿業由會正式聘任為諮詢工程師
該會自可隨時接洽俾資周妥文

本會呈報文件

- 一 呈揚子江水道討論委員會呈本會開會情形請鑒核備案文
- 一 呈揚子江水道討論委員會呈為本會現正著手測量擬派員先行視察請轉部飭令各該員前往協勘仰祈鑒核文
- 一 呈揚子江水道討論委員會呈為美國工程師史篤培為本會測量總工程師業經簽定聘函繕具原稿仰祈鑒核文
- 一 呈揚子江水道討論委員會呈為陳報本會組織水平測量隊暨流量測站擬請分電沿江各省轉飭接洽仰祈鑒核文

一 呈揚子江水道討論委員會呈爲海軍部海道測量局派員到會會商測量手續情形仰祈鑒核文

測量報告

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丁 成績表

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(二) 九江揚子江測站

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(四) 大通揚子江測站

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乙 泥磯_己處揚子江斷面圖

丙 巴河_乙處揚子江斷面圖

丁 蘿葡萄洲_{戊一 戊二 戊三}等處揚子江斷面圖

戊 戴家洲迤西_{丙一}處揚子江斷面圖

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- 四 測流量所用之舢板圖
- 五 漢口與戴家洲間揚子江斷面地點圖
- 六 九江湖口大通附近揚子江斷面地點圖
- 七 漢口測站揚子江斷面圖及直測流速曲綫圖
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- 九 湖口測站揚子江斷面圖及直測流速曲綫圖
- 十 大通測站揚子江斷面圖及直測流速曲綫圖

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十七 武昌滄源口間精確水準測量往返復測水準不同數及普通水準測量所得水

準不同數比較圖

十八 漢口至蘄州間揚子江水面綫同時漲落圖

十九 漢口日界迤東揚子江_丁—_丁處斷面圖

二十 泥磯揚子江_己—_己處斷面圖

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揚子江技術委員會第一次報告書 目次

揚子江技術委員會第一次報告書序

吾國以水功稱者數千年來惟禹爲最去古日遠雖其績不可尋然禹貢一篇其於土地之肥瘠田賦之區分以及江河溝洫之疏導陂阜山陵之平治莫不縷指條分窮源竟委卽今世之言治水而注重於測量地質之考察者其施治之精粗巧拙雖有不同要其疏鑿濬治之原又何多異禹以後言治水者代不乏人世有專書顧皆偏於培高而忽於疏濬明於一隅而暗於全勢且不事深究斤斤以河之隄防是務而於吾國今古知名之揚子江則任其澎湃橫流不之挽救不亦大可悼惜耶今者渝夔礁石棋布星羅蘇贛淤灘環生突起盛漲則漫溢時聞冬春則航行多阻而舉國所相倚以資灌溉運輸者亦漸不可復得味我思之竊不怒焉興歎歎往余官鄂省簿書之暇巡視江濟習見夫江流淤淺蒸庶顛沛之情未嘗不低徊禹功慨然思有所救治而國家多故財力不逮卒卒未獲竟其志民國十一年春承乏內務是時江水爲患鄂贛皖蘇諸省各以文報相聞而旅華僑商亦以航運艱阻議請疏治爰商主管部署擬設

揚子江水道討論委員會集中外技術之士共謀施治之計延聘英技師柏滿君主持規畫復組織技術委員會專司測務而以美技師史篤培君董其役凡設測隊若干自七月起測迄於年終成報告書一卷圖若干帙委員會哀輯成冊問序余余喜其圖表精審紀述詳明比之清馬徵麟及英海軍所製之長江圖益臻詳確他日儻進而興導宣之工是不獨完全未竟之志於萬一而諸君子利濟羣生之功亦庶幾乎繼禹而顯也

高凌壽

中華民國十一年十二月

揚子江技術委員會報告書序

袤長七千里橫貫五六省稱中外有名之大川者揚子江也溯江之導肇自神禹與河淮漢並著四千年來江之利尤溥且遠顧河淮漢有言治者無言治江者得毋震懾汗漫憚事而安常者多歟今荊襄之墊而高通太之墊而溢任其爲病又二百數十年於茲海通他國以航業射利於吾國億鈞巨舶萬石艤舳因漲乘利出入往來無誰何之阻漲落江涸則自漢以下至於江蘇尾閘泥沙澱流梗濟曲峙乍陽乍陰爲舟行障而上浣下圩占江流迴淤之地以爲利者亦妨集川會入之輸泄焉雲嘗汎覽治水書與圖竊歎監利王先生柏心導江之議爲大有心其於水利大計遠識出當時名輩上因益於江行究今昔形勢變遷利害倚伏之形在目驗而見或未真問溢而聞或未當信未堅則無以得言之要時未至則無復有行之望懷此者殆二十餘年今各國協議治江之說政府可其請吾國人有聞而覺者矣不知英航通江之後艤舟測量勘察已三十年雲營南迪保圩須考歷史蒐羅所得有十五年前之圖而彼圖有三十年

以前者形勢變遷利害倚伏彼測量勘察者瞭目於圖而我視之乃於圖寄目斯其心營而目憶紆徐委備已不可得而同而況未嘗見圖或並不知人之有圖者噫其可悲也頃者內務部設揚子江水道討論會審其間又設揚子江測量處於上海爲上自漢口迄江陰第一步之量深度淺測坡證平蓋吾國人自測量之水道淮之外江其一也自五月至今測繪成績可以編次成帙矣距施工之日尙須二度或三度不止不可知審見此圖乃不勝喜爲江有治之日而吾國人不憚事而安常終也苟子亦言塗之人能爲禹夫塗之人能爲禹真禹之心也

張 謇

中華民國十一年十二月

公牘摘要

國務院函爲全國水利局呈請明令特設長江水利討論會一案
抄錄原呈請會商見覆文



逕密啓者公府交

大總統發下全國水利局總裁李國珍呈一件內稱長江水利急須整理請明令特設長江水
利討論會以策進行等因並附密呈摺略一件到院當經國務會議核閱以茲事關係至重應
先由內務財政農商交通四部會商辦法送院核定除分行外相應抄錄原呈一件函送
貴部迅速會商見覆可也此致

內務部

中華民國十年八月二十九日

照抄原呈一件

呈爲長江水利急須整理懇請

明令特設長江水利討論會以策進行恭呈仰祈鈞鑒事竊惟吾國河流豐富物產殷繁爲世界所豔稱而以長江流域爲尤著查長江發源青海經川滇湘鄂贛皖蘇等省而入海除上游灘高水急不適通航者外有五千里長之航綫所經之處均內地富沃行省論者咸認爲吾國中部農工商之命脈全國唯一之利源國計民生所關匪細海通而後沿江上下商埠如林各國之商務較多者均設立輪船公司在長江各口岸往來行駛每年進出口之貨物約占全國貿易額十分之五是長江不獨關於內政並爲國際貿易之中心近年河道日淤航行每多阻滯一遇江流盛漲輒復漫溢成災若不迅籌整理之方則非惟蓄害頻仍並足貽人口實關係大局尤非淺鮮上年一月間承准國務院函交英國商會大會議決案文一件原議決案內有關於揚子江一案畧謂揚子江爲中國第一貿

易水路關係重要現在亟應將該江全身及匯入該江或分瀉其水之各大河道概行切實測量并請求中國政府從早設一水利局以辦理此事且迫令即刻取適當之法以利揚子江及其大支流之航行等語本局當以事關水利經派令本局技正楊豹靈一再前往調查并以上海滬浦工程局及海關巡港司常年派艦測量於江流變遷情形較稔函請外交部稅務處分別行知接洽茲據調查報告近歲長江水道除七八九月間吃水二丈六尺之輪船可直達漢口外常年則漢口以下止能通吃水八尺之輪船惟吳淞至江陰間水道較深吃水二丈四尺之輪船可以終年行駛外人於整理長江一事業經研究有年有主張設立整理長江委員會者有主張委員會未設以前設一技術委員會先行籌備者案經議決已非一次其機已迫志在必行本局一再籌維長江爲內地江流純屬國家內政近既日形淤淺則整理自不容緩與其先發自人或至喧賓奪主曷若自行舉辦猶爲權自我操且本年鄂贛一帶漫溢成災本局爲全國水利行政中樞職責所在詎

容膜視茲爲內外兼籌并詳求利病起見擬在本局先設一長江水利討論會函請內務財政農商交通各部稅務處并沿江各省行政公署省議會各商埠中西總商會各遴派專門技術或熟習長江水利人員一人爲會員此外并擬約請著名河海工程師數人實地調查將整理長江各問題悉心討論酌定辦法以備遂漸實行再茲事既於國際商業地方主權關係均極重大時機又復迫切尤當積極進行并擬請

特頒明令飭設長江水利討論會責成本局迅卽妥籌辦理以昭鄭重除俟奉准後再行擬具章程呈核外理合呈請

大總統鈞鑒訓示施行謹呈

大總統

全國水利局總裁李國珍

內務部外交部財政部農商部交通部稅務處會呈 大總統

爲會同籌設揚子江水道討論委員會擬具章程仰祈 鑒核

公布文

呈爲會同籌設揚子江水道討論委員會擬具章程仰祈

鑒核公布事竊承准國務院函開公府交

大總統發下全國水利局總裁李國珍呈一件內稱長江水利急需整理請特設長江水利討論會以策進行等語到院當經國務會議核閱以茲事關係至重應由內務財政農商交通四部會商辦法送院核定等因內務部查揚子江流域爲我國中部交通要區比以年久失修遂致危機環伏盛漲則宣洩無從漫溢千里秋冬則淤灘密布淺或膠舟近年以來沿江人民廬舍就墟沈災迭告情形尤爲迫切原呈所稱設會討論函請各主管官署遴派技術專門及熟悉長江水利人員爲會員並請著名河海工程師實地調查將整理長江各問題悉心討論酌

定辦法以備逐漸實行各節自係爲消弭水患注重交通起見洵屬目前切要之圖自應亟籌進行俾濟沈災而維航政當經內務部咨商各主管部署議定會同設立揚子江水道討論委員會並咨呈國務院察核辦理在案旋准稅務處咨據稅務司呈擬長江下游設施辦法擬由政府延聘此次來滬參與上海口岸改良會議之英國著名工程師柏滿會同滄浦總局海工程師先行備具關於揚子江之報告此項報告費用准總稅務司由稅收項下特提等語復經主管部處往返咨商僉以長江致病情形不僅危害航行卽議從事改善亦須兼顧防災工事以期周洽似難枝節籌謀致增糜費矧漢審一段江流雖屬航行要區但係內地範圍與滄浦局轄境劃然兩事亦難混而爲一現在本部及各部既經擬定設立揚子江水道討論會實行籌議施治辦法該總稅務司擬請聘用之工程師柏滿自應俟討論會正式成立後由會延聘以資借箸至應需報告經費亦可由稅收項下酌撥到會藉應要需現准國務院函開此案業經國務會議議決照辦等因霜清已屆所有關於長江整理計畫自非從速組織專會詳確討

論不足以資迅捷而利推行茲經主管部署往返咨商擬具揚子江水道討論委員會章程十
五條如蒙

照准擬請

明令公布俾便實行至該會應需經費擬由內務部先就所轄全國河務研究會年支經常費
暫行挪用不另請欸藉資撙節其關於計畫報告需用欸項現經稅務處指定由稅收項下酌
撥將來實行施治會務發展再由財政部設法籌撥以重要工所有呈請籌擬揚子江水道討
論委員會章程緣由是否有當理合呈請

鑒核訓示施行再此呈係由內務部主稿會同外交財政農商交通各部暨稅務處辦理合併

陳明謹呈

大總統

中
華
民
國

十
年

十
一
月

二
十
五
日

揚子江水道討論委員會章程

第一條 本會籌議揚子江水道整理計畫期達消弭水患發展航業爲宗旨

第二條 本會設置職員如左

一 會長

二 副會長

三 主任

四 課長

五 會員

六 技術員

七 顧問

第三條 會長一人由 大總統就主管官署最高長官特派總理會務副會長二人由 大

總統就各主管官署長官或次官簡派襄助會長處理會務

第四條 主任一人由會長就主管官署主管司員呈請 大總統派充兼承會長處理會務

第五條 課長三人由會長就各主管官署中富有學識經驗人員派充會員由會長就有關

係京內外各官署人員派充

第六條 技術員由會長就中外熟悉工程水利人員派充

第七條 顧問由會長就中外富有工程學識經驗人員聘充

第八條 本會分左列三課

一 總務課

二 工程課

三 調查課

第九條 總務課掌事務如左

一 關於會議事項

二 關於撰擬文牘典守印信事項

三 關於會計庶務事項

四 其他不屬於各課事項

第十條 工程課掌事務如左

一 關於工程計畫事項

二 關於測勘事項

第十一條 調查課掌事務如左

一 關於調查事項

二 關於編輯報告事項

第十二條 本會因繕寫文件辦理庶務得設事務員

第十三條 本會議決事件由會長商同各主管官署執行

第十四條 本會會議規則另定之

第十五條 本章程自公布日施行

公布會議規則

茲制定揚子江水道討論委員會會議規則公布之此令

揚子江水道討論委員會會議規則

第一條 本會議以左列人員組織之

一 會長

二 副會長

三 主任

四 課長

五 會員

六 技術員

課長與會員有一切同等之資格但技術員得提出建議案及發表意見不與表決之數

第二條 本會以每月第二第四星期五爲常會日期但遇有必要時由會長臨時召集之

第三條 會議時以會長爲主席會長因事不能出席時由副會長一人代理

第四條 會員之席次抽籤定之依號列坐

第五條 會長暨本會職員均有提出議案之權

前項議案須先期送交總務課陳由主任分配次序編列議事日程於開會前分送與會各

員

第六條 會員入會場時須於出席簿畫到

第七條 會員入場後非宣告休息不得離坐非宣告散會不得退出

第八條 會員因事故不能出席須先期聲明事由請假由主席於開會時報告之

第九條 本會會員非有過半數之出席不得開議

第十條 凡議案相類或關聯者得併案討論

第十一條 開議時由提案員或委託人說明旨趣但事由簡單明瞭無說明之必要者經主席之許可臨時得省略之

第十二條 會員討論議題發言時須報號起立同時不得有二人發言其同時報告號數者由主席指定先後以次發言

第十三條 本會顧問得由會長函請列席會議發表意見并有建議之權

前項建議須備具書而送交本會認爲必要時由會長提出議案并通知該顧問屆時出席說明理由

第十四條 表決方法分舉手起立二種

第十五條 會員討論畢由主席付表決取決於多數其可否同數時由主席決定之

第十六條 凡議案經表決應付審查者由主席指定審查員三人或五人經審查結果并須

報告大會

第十七條 每次開議應編製議事錄

第十八條 議決事件依照揚子江水道討論委員會章程第十三條之規定辦理

第十九條 本規則未盡事宜得由會隨時修正

第二十條 本規則自公布日施行

中華民國十一年二月十七日

咨全國水利局江蘇安徽江西浙江湖北省長爲籌設揚子江水道討論委員會一案業奉令照准照抄原呈暨章程各一件咨
行查照文

爲咨行事前准國務院函開公府交

大總統發下全國水利局總裁李國珍呈一件內稱長江水利急需整理請特設長江水利討論會以策進行等語到院當經國務會議核閱應由內務財政農商交通四部會商辦法送院核定等因當經本部咨商各主管部署議定會同設立揚子江水道討論委員會並經國務會議議決照辦旋由本部擬具揚子江水道討論委員會章程十五條會同外交財政農商交通等部暨稅務處呈請

大總統鑒核公布各在案本年十二月三日奉

指令呈悉准如所擬辦理此令等因奉此相應照抄原呈暨章程各一件咨行

貴^局省長 查照可也此咨

全國水利局

江蘇省長

安徽省長

江西省長

浙江省長

湖北省長

中華民國十年十二月二十六日

咨農商部交通部全國水利局江蘇安徽江西浙江湖北省長爲

本會籌議揚子江整理計畫所有公私圖籍請廣爲蒐羅或備

價墊購寄會以備參攷文

爲咨行事查本會前於本月十日組織成立經分行主管各機關暨沿江各省派員蒞會與議在案惟是揚子江流域綿長險工環伏比以年遠代湮遂致情移勢異創設伊始自非旁搜載籍博採羣言不足以資參證而便研求所有各省歷年辦理長江工程測量圖冊紀志以及施治成案專作論說無論私人庋藏抑或公家纂輯均請代爲蒐羅逕送本會如或僅存一份未便分致亦可暫行借閱閱畢當即送還由會任保管之責倘係出版圖籍應需備價始能購置者亦請先爲墊購迅即寄會本會仍當照繳至級公誼除分行外相應咨請

貴省長查照並希迅予見復此咨

局

農商總長

交通總長

全國水利局

江蘇省長

安徽省長

江西省長

浙江省長

湖北省長

中華民國十一年二月十八日

稅務處函內務部揚子江水道討論委員會擬聘用英國工程師

柏滿一案照譯總稅務司原函等件送請核復飭遵文

逕啟者查擬聘用英國工程師柏滿一事前准

來函以揚子江水道討論委員會成立在即應俟該會成立後由會酌量情形再行核辦復請查照等因當經函達總稅務司查照去後現接總稅務司來函及節畧大致以該工程師柏滿已定於本月二十九日由橫濱起程回國現在爲時無幾如請其先擬一大略水道之報告須給款一千鎊將來再請其擬一詳細報告則再給款六千鎊請即迅速決定見復以便轉知至該款可先由總稅務司代爲墊支等因前來相應將總稅務司英文原函及節畧照譯函送貴部查照從速核復以便轉飭遵照勿遲爲盼此致

內務總長

中華民國十年二月五日

照譯總稅務司節略

一九二一年十二月五日

中國政府擬聘請先行備具揚子江報告之英國著名工程師柏滿現已抵京並會晤總稅務司陳述如左

柏工程師如爲政府聘用祇可在遠東逗留至十二月二十九日因彼須於此日由橫濱動身他往

柏工程師現可協同海德生先行備具揚子江大略之報告以備決定情形另造一詳細報告惟此事非研究揚子江情形二、三個月不可並擬於一九二二年十月間舉辦本月所辦先行備具揚子江之報告其酬金係一千金鎊而明年所辦其詳細報告之酬金則六千金鎊惟柏工程師之意若中國政府只請其辦理本年之大略報告而不辦一千九百二十二年之詳細報告則不願承辦也

柏工程師現可卽行赴漢由漢沿途查看至申

總稅務司以爲如有意聘用柏工程師則應迅卽辦理如俟揚子江討論會成立後方行聘用則彼無暇以辦理此項揚子江之大略報告是以總稅務司擬請內務部現卽核准由總稅務司聘請柏工程師先具揚子江之大略報告一俟揚子江討論會成立時再正式聘請柏工程師於一九三二年十月由大略報告內情形繼續辦理研究揚子江事項此節亦須聲明也倘內務部對於此議表示贊同則總稅務司與柏工程師將應行之手續辦妥並將其應得之酬金預爲墊付也究竟如何之處卽請迅速見復爲盼

照譯英國工程師柏滿等十年十二月二十一日報告

竊查整理長江水道一事柏滿等業已遵照十二月七日第五四六九號

總稅務司來函內開辦法於本月十二日起至十七日止一星期間將長江由漢口至吳

淞一段概略情形視察完竣此次視察目的即係對於下列各端略爲有所窺測

一 該江流實係如何之長闊

二 行駛該江有如何之障礙

三 目前在於重要各段水道或備航路圖或施行測量或用浮椿標誌以助航行之各種辦法如何

並按視察之結果俾籌議在下幾個月間應蒐集何種資料以備來年秋間柏滿等從事詳細調查報告時即可將此項資料細心考察而憑擬議揚子江委員會在實行著手改良水道之大計畫以前應行預備何等資料也

查長江各段水道其因水淺之故致輪船吃水受其限制各地方多有最近之測量圖並於該江海口以及沿江各口岸均備有按期測量更正之航路圖此次柏滿等視察之際所有上述圖幅均經加以披閱

總之該江自漢口以下之水道其輪船吃水有所限制地方甚爲少數大抵多在漢口九江之間此等少數淺水處所似應用三角術測量按海關巡工司原交柏滿等之節略由漢口至南京約四百英里之水道內中對於吃水十二英尺之輪船有所障礙地方綜核各段全長祇有二十三英里其南京以下則並無何等阻礙此種船隻行駛之處

此外關於揚子江全部水道尙有應需之各種重要資料雖知在柏滿等來秋視察之前不能將應需之各種資料完全蒐集無遺但可將此項各種資料開列於下以爲指示究竟需要何種資料之方針

一 將該江水道可以航行部分全長之海平水準聯結列表

二 將該江全部用三角術施以測量就中先從下開兩段水道著手

(甲) 漢口以下輪船吃水有所限制之各段水道

(乙) 下流(略爲南京以下)之水道

三 在以下所列各重要地點常川測量其流量

(甲) 緊接與湖汎有關處所之上游(例如大通)

(乙) 長江緊接鄱陽湖口下游之處

(丙) 九江

(丁) 漢口

(戊) 漢水(緊接流入長江地方之上游)

(己) 長江緊接洞庭湖東口上下游

(庚) 長江緊接洞庭湖西口上下游

(辛) 宜昌

(壬) 重慶(在緊接嘉陵河入口上下游之處)

四 沿江各大都市(例如大通安慶九江武昌岳州宜昌重慶)正式記錄中關於該地江流方向及海平水準之資料

五 關於長江流域雨量之報告及統計

六 沿江各段尋常地圖及航路圖(英國海軍部圖中國海軍航路圖中國陸軍測量圖等)

又柏滿等爲將沿江各地方利益通盤考慮起見茲擬通行長江流域各省官憲請其備具節略載明各該地關於長江各種問題詳細陳述交由柏滿等考量或屆明年秋季柏滿等再行視察時由各該省憲遴派委員將節畧內述各節親予說明若能如此辦理則柏滿等對於該地江流問題可以就地研究如各省所派委員之中能有專門人材相與

討論工程等問題諒必更有益處

至下次視察時期擬請定於九月底以前各委員齊集上海十月一日由滬動身開始詳細調查至少亦願查至重慶其溯流時祇於晝間行程以期將全江水道完全視察並擬在緊要各地方詳細查勘是以每一日之行程平均計算不能逾於七十五英里卽由滬至渝應需二十日以上又回來時所有按照溯流視察之結果認爲應行復勘之各段水道可以復行查勘

再按此次視察之例如海關各巡江工事能在該管各段水道內隨同委員視察俾便答述關於各該段水道之一切普通問題甚屬便宜除將漢口以下江輪吃水有所限制之各段水道情形開列清冊一份附送外理合備具大略報告陳請

鑒核施行

柏 滿署名

海德生署名

楊豹靈署名

揚子江技術委員會於十一年五月一日成立由會長選派會員

七人如下

會長 陳時利 內務部土木司司長

會員 楊豹靈 全國水利局技正

額得志 海關巡港司

海德生 上海滄浦局工程司

方維因 內務部諮詢工程司

沈豹君 全國水利局僉事

周象賢 內務部技正

公布暫設揚子江技術委員會組織規則

第一條 揚子江水道討論委員會因辦理技術之必要暫設技術委員會

第二條 本會隸屬於揚子江水道討論委員會執行一應技術事務

第三條 本會之組織如左

一 委員長

二 委員

第四條 委員長一人由揚子江水道討論委員會主任兼充主持會務

第五條 委員六人由會長就揚子江水道討論委員會職員中選派處理一應技術事務

第六條 本會設事務員長一人由會長就揚子江水道討論委員會職員遴選派充承委員

長之命綜理本會編輯及撰擬文件各事宜

第七條 本會爲實地調查應設各種測量隊測量隊組織章程另定之

第八條 本會因收支款項及編製預算等項得酌設會計員

第九條 本會得就事務之繁簡酌設事務員若干人由委員長遴派分任事務並因辦理庶務及繕寫之必要得酌用雇員

第十條 本會籌擬之一應計畫一經定議應即備具說明或理由書報告揚子江水道討論委員會討論決定後由委員長督飭執行之

第十一條 實地調查之成績由本會審查後報告揚子江水道討論委員會決定之

第十二條 本會進行事項取合議制以全體委員過半數之同意決定之

第十三條 本會會議以委員長爲主席可不同意時由委員長參加一表決權決定之

第十四條 本會規則如有未盡事宜得以揚子江水道討論委員會會長之提交或會員三

分一以上之動議由大會修正之

第十五條 本規則自公布日施行

籌擬整理揚子江各項計畫報告

會長鈞鑒敬肅者竊查揚子江流域關係綦重爲謀灌溉防災及航業利便計不能不亟籌整理顧茲事體大施治之始非從詳細測量入手不足以資設計而利推行委員等審議再四竊維工程之先須具下列之各種辦法

(甲) 測量計畫規定如下

- (一) 將通航各段之水準測量分別聯接
- (二) 舉辦全河三角測量
- (三) 於重要各區舉辦連續之流量測量如下
 - (a) 不受海潮影響之大通地方
 - (b) 鄱陽湖口以下
 - (c) 九江

(d) 漢口

(e) 漢水上游與揚子江匯流之處

(f) 洞庭湖下口與揚子江匯流之上下兩處

(g) 洞庭湖上口與揚子江匯流之上下兩處

(h) 宜昌

(i) 重慶 在嘉陵江與揚子江匯流之上下兩處至測站設置之地位及數目
可隨時酌量情形更變或增減之

(四) 蒐羅沿江重要各區之關於江流方向及江水漲落之各種紀載如

大通 安慶 九江 武昌 岳州 宜昌 重慶等是

(五) 徵集長江流域內各處之雨量紀載

(六) 徵集長江各種地形航業圖籍例如英國海軍圖中國海關圖中國陸軍測量

圖等

(乙) 查長江流域綿遠兼顧維艱擬辦伊始擬就漢口以下先行舉辦測量將來酌漸

擴充以期普及於全河

因辦理漢口以下之測量及調查委員等謹就管見所及擬具下列之各種辦法

及預算乞

賜酌核採擇施行

辦理測量及調查事項每月所需之預算條舉如後

(一) 三角測量 籌備繪製地形及河流圖籍之用

(a) 員額及薪津

擬組織三隊每隊分三組每組組織如下

組長一人

二百五十元

組副一人 一百五十元

測夫八人 每人十五元 一百二十元

每組每月需洋五百二十元

三組共計洋一千五百六十元

旅費及雜費以百分之二十五計算

合計四百四十元

每隊合洋二千元

(b) 器械

每隊應備大輪一艘小船二隻住船二隻每月所需經費如下

大輪 二千元

小船(每隻五百元)合一千元

住船（每隻一百元）合二百元

共洋三千二百元

(c) 測站 每隊每月需儀器及測標費約洋一千元

每隊每月共需洋六千二百元

三隊共需洋一萬八千六百元

此外尚須增加每月購辦儀器船隻之利息及本金

約洋五千元（參觀購辦儀器預算項）

三角測量綜共需款二萬二千六百元

(二) 流量測量 爲籌辦測量流量起見擬設四測站即大通鄱陽湖口九江漢口但

鄱陽湖口與九江相距最近擬將兩處測務責成一站辦理故擬先行組織三測

站每隊組織如下

隊長一人 每月二百五十元

隊副一人 每月一百五十元

測夫十人 每人每月十五元 合計一百五十元

船隻 一百五十元

旅費 一百五十元

雜費 一百五十元

每隊共需洋一千元

三隊合計需洋三千元

外加每月添置測標及觀測費共洋二千元

流量測量綜共需欸五千元

(三) 水準測量 查江陰以下之水準測量濬浦局業經詳細測勘具有成績茲擬將

此段從峇祇先舉辦江陰至漢口一段約計五百英里擬設五隊分測每隊組織

如下

隊長一人

每月二百五十元

隊副一人

每月一百五十元

測夫八人

每人每月十五元

每月一百二十元

夫頭一人

每月三十元

住船一隻

一百元

共計六百五十元

旅費以百分之二十五計算

合計一百二十五元

雜費

二百二十五元

每隊每月需洋一千元

五隊綜計需洋五千元

水準測量每月綜計需洋五千元

(四) 稽核費 爲管理及稽核各隊工作起見擬設一負責之專員綜理一應測務

該員每月所需薪津擬定每月一千元至所需旅費雜費等每月亦暫定爲一千元每月共需洋二千元

(五) 行政費 擬設總辦事處於北京所有處內一應事務以技術委員會委員分任

之外設事務員長暨會計員及事務員等應需薪津及一應辦公雜費等每月需洋五千元

上海事務分所

測務長一人 (參觀稽核項)

繪圖主任一人 三百元

繪圖員八人 八百元

打字員二人 二百元

司賬員一人 二百元

書記長及事務員 五百元

房租電燈印刷儀器及雜費等一千元

共三千元

行政費綜計八千元

茲將上列各款綜計如下

三角測量及圖表 二萬三千六百元

流量測量及水面紀載 五千元

水準測量 五千元

稽核費 二千元

行政費 八千元

預備費 約計百分之十五 六千四百元

綜共計洋五萬元

約合關平銀三萬五千兩

購辦儀器預算費

上列之三角測量預算項內列有購置儀器預算一項茲將每隊所需儀器預算如下

大輪一艘 約八萬元

小輪二艘 每艘約二萬元 約四萬元

住船二隻 每隻三千元 約六千元

每隊需用船隻共計洋十二萬六千元

三隊計洋三十七萬八千元 約四十萬元

上列應購置之儀器費預計所需之數至鉅一時殊難籌集茲擬先行借款

購辦再由會按期籌還

現擬每年還本付息以百分之十五計算每年需洋六萬元即每月五千元

(參觀二角測量購辦儀器項)

查長江測量一項端緒紛繁非多歷歲時難資適用以故所需儀器等項據委員等管見所及似應由會自行籌款購置因暫時租借不惟窒碍殊多且恐難於久假惟組織之初籌款購械耗時費日爲暫圖進行計擬將三角測量所必需圖表暫託海關理船廳代辦將來組織完備再行收歸自辦是否有當理合呈請

揚子江技術委員會第一次報告書 公版摘要

鑒核示遵

內務部函爲技術委員會應需測量經費擬請財政部就關餘項

下逕撥一案經國務會議議決照辦抄錄原案請查照文

逕啓者承准國務院函開准貴部提出揚子江水道討論委員會附設技術委員會實行測量應需經費擬請財政部就關餘項下按月逕撥請公決一案現經國務會議議決照辦等因到部除分咨外相應照抄原案函請

貴會查照辦理此致

揚子江水道討論委員會

附抄件

中華民國十一年三月十六日

提國務會議原摺

查揚子江流域關係甚重爲謀灌溉及航業利益計不能不亟籌整理用奠民生顧茲事體大施治之始非從詳細測量入手不足以資設計而利推行前山揚子江水道討論委員會議定暫行附設技術委員會組織測量隊從事測量當經面呈

大總統在案至應辦事宜爲流量測量水而紀載水準測量暨辦公稽核等項綜計月需洋二萬六千四百元應請由財政部備案並知照總稅務司按月就關餘項下逕撥支用以應要需是否可行相應提請

公決

總稅務司安格聯君提請公使團核准揚子江水道討論委員會

技術委員會測量經費文

敬啓者比者中西商會鑒於揚子江淤塞情形紛紛開會討論籌議修治於是揚子問題遂爲輿論界所重視而施治之議亦有不可再事緩圖者顧濬治之方要不外便利航業防遏水災而已

由吳淞溯江而上達漢口以航業言初本無甚阻滯也顧近值冬令江水涸竭輪船往還間多防阻甚至裝載之貨又須改用他船搬運影響航業商務詎可勝言且鎮江地方年來淤墊日甚舊時通商要埠去江漸遠卽此而不謀修治則江流易道妨碍商務滋巨矣更以揚子江之中游言漢口至宜昌及宜昌至重慶等處年來商務日臻繁盛事實上亦須振興航業便利運輸卽當地之官紳對之亦極注重仍不能不亟籌濬治也

綜此而論是揚子問題其範圍之廣大較之遼河直之海河上海之黃浦福建之閩江廣

東之西江等僅專固一隅者其情形奚啻霄壤中國政府注重及此爰於中央地方特設揚子江水道討論委員會特派內務總長爲會長稅務督辦爲副會長就中委員則以主管各部及內務部專門技術家暨中國顧問工程師方維因君等充任總稅務司並經邀請入會會期每星期一次於以集思廣益謀精確之研究也

討論委員會組織伊始中國政府曾經聘定著名外國工程師於民國十一年秋季來華考察歷時頗久對於長江各種問題曾爲詳確之報告以故討論會成立後卽首設技術委員會辦理長江各種測量並徵集關於一應治水標準以爲實行施治之備質言之卽就長江及湖港等處設置流量隊攷察流量並安設水尺量水漲落更於重要各處詳加測量其從前已成之圖表及各地方已得之成績並須一一徵集以供研究

技術委員會之組織爲內務部專門技術及辦理順直水利委員會成績昭著之中國著名工程師楊豹靈君上海溶浦工程局總工程師海德生君海關巡港司額得志君及方維因君以

上各員曾於上海開會關於會中經費並經詳加核擬請求就關稅項下撥發以資興辦

上列經費數目如蒙核准實於外債優先權毫無妨礙總稅務司因即連同外交部經費一併提請公使團加以討論顧總稅務司以爲此案關係商務利益至巨以商務稅收之欸項費諸增進商務之事業自無問題且較諸與商務無關而仍在稅入項下動支者則此案又實有優先特權也爰瀝陳意見敬希

公使團核准施行

總稅務司安格聯敬啓 十一年四月六日

外交部咨復揚子江水道討論委員會議決暫設技術委員會測

量經費擬就關餘撥用一節已得公使團允可文

外交部爲咨行事前准本年三月十六日

貴部來咨以查長江問題關係綦重前經本部會同主管各部署呈請設立揚子江水道討論委員會詳籌施治並經大會議決暫設技術委員會執行一應技術事務現在技術委員會業經組織就緒所有測量經費計月需洋二萬六千四百元應請財政部就關餘項下按月撥用亦經提出閣議議決照辦請轉知外交團查照等因並抄送議案到部當經照會領銜公使轉請各關係國公使迅予同意去後茲准領銜葡符使復稱外交團以此項撥用之款係屬正當要需允可照撥等因相應咨復

貴部查照可也此咨

內務總長

中
華
民
國
十
一
年
五
月
八
日

函稅務處揚子江技術委員會呈稱柏滿工程師請展緩來華一年等因函請查照轉知文

逕啟者據揚子江技術委員會呈稱竊本會奉令交審查柏滿工程師視查揚子江下游情形報告一案當於五月十六日開會提議各委員大體討論僉以揚子江流域綿長橫亘數省淤塞壅滯險象環生重以民國九十兩年夏秋之交霖雨侵尋江河並漲沿江各省漫決成災上游如鄂省之襄河中游如皖省之淮河下游如江蘇之運河以及濱江之各湖港汊等無論直接間接均無不受其影響此次本會籌擬施治計畫固宜首重測量而對於防災灌溉航行諸大端尤非並顧兼籌不足以期永久而奠民生茲該工程師柏滿原報告對於治江計畫主張先行採集各項資料以爲計畫實施之備洵屬根本切要之圖惟本會成立未久比以畿輔多故遲滯至今始獲開會此次會議決定擬派之總工程師史篤培君甫經發電至美預計來華日期當在六月以後如再編製測隊籌畫進行勢必又須逾月去柏滿工程師本年來華之日

相距甚近所有應行預備資料衡以目前情形無論如何趕辦亦恐不易竣事委員等妥慎籌維悉心討論當經全體議決請由大會咨達稅務處轉知總稅務司知照柏滿工程師將來華日期展緩一年俾得從容考察精確查勘庶欸項不致虛糜測繪益資詳盡實於進行上有莫大之裨益除原報告擬俟測量工程師來華再行開會會同詳加審查另文具報外所有本會議定柏滿工程師暫緩來華緣由理合呈請鑒核施行等情前來相應函請

貴處查照轉知爲荷此致

稅務處

中華民國十二年六月八日

函稅務處函達本會辦理柏滿工程師原件第一項規定之大概

情形茲附上致該工程師函及聘函各一件函達查照辦理文

逕啓者案查內務部鈔送關於聘用柏滿工程師調查揚子江水道一案內開該工程師曾於上年由總稅務司介紹經

貴處商同內務部在本會未成立以前作爲暫聘並由總稅務司將中政府所擬條件義意分列三項(一)於月內即行調查情形先行備具一大略報告酬金一千鎊所有薪水川資雜費等項均包括在內(二)俟揚子江水道討論會成立時由該會正式聘請再備一詳細調查報告酬金六千鎊所有薪水川資雜費等項亦一切包括在內不另開支(三)將來報告完竣則該工程師之事務已完其餘他事應如何辦理應聽候政府主持不爲此次調查報告等事所限制經函准該工程師答復允認嗣准函送該工程師備具之調查大略報告請核辦各等因前來本會查總稅務司原擬聘用該工程師之條件三項經會復核均尙妥洽自可照辦至送

到之該工程師調查大略報告亦尙確當業經提出大會議決設立技術委員會積極籌備進行現在關於該工程師原報告所擬預爲搜集各種資料並經技術委員會聘請美國工程師史篤培督飭水平流量各測隊分別趕辦以爲該工程師明年來華復勘之用惟是各隊測量進行手續及測勘成績在在均與該工程師將來復勘計畫有關應請由總稅務司函知該工程師將最近住址逕函技術委員會以便隨時接洽此本會辦理原條件第一項規定之大概情形也本會現既成立按諸第二項之規定自應由會正式聘任該工程師爲本會諮詢工程師庶遇事協商不致發生窒礙至應行備具之詳細調查報告及應得酬金均可如本項規定辦理惟該工程師來華日期有無提前或從緩必要仍應視測量進行情形如何由技術委員會逕商酌辦總之揚子江流域綿長爲我國中部交通之要區比以年久失修險工環伏遂致水患侵尋商民交困工程師柏滿學識湛深聲華久著茲更展抒宿抱宏事動勳本會至深慶幸總稅務司安格聯瞻念洪荒肇畫周至熱誠毅力尤深佩謝茲由會致柏滿工程師一函並

附聘函一件請卽飭由總稅務司轉交該工程師察收見復至緞公誼除令行技術委員會遵
照外相應函達

貴處查照辦理並希見復爲荷此致

稅務處

附聘函二件

中華民國十一年十二月十一日

函柏滿工程師本會現已成立正式聘任爲諮詢工程師至來華

日期由技術委員會逕商酌辦檢同聘函函達查照文

逕啟者案查本會上年曾經總稅務司介紹由稅務處商同內務部在本會未成立以前代爲
暫聘

貴工程師調查揚子江水道事宜並由總稅務司將中政府所擬條件義意分列三項(一)於
月內卽行調查情形先行備具一大略報告酬金一千鎊所有薪水川費雜費等項均包括在
內(二)俟揚子江水道討論會成立時由該會正式聘請再備一詳細調查報告酬金六千鎊
所有薪水川資雜費等項亦一切包括在內不另開支(三)將來報告完竣則該工程師之事
務已完其餘他事應如何辦理應聽候政府主持不爲此次調查報告等事所限制經函准
貴工程師答復允認在案現在關於第一項應辦事宜業經提出大會議決設立技術委員會
積極籌備進行所有

貴工程師原報告所擬預爲搜集各種資料並經聘請美國工程師史篤培督飭水平流量各測隊分別趕辦以爲

貴工程師明年來華復勘之用惟是各隊測量進行手續及測勘成績在在均與

貴工程師將來復勘計畫有關應請將最近住址逕函技術委員會以便由該會按月將各隊成績分報審核如

貴工程師對於該會測量事務如認爲應行增損或改善之處並請隨時逕商該會接洽俾臻妥協本會現既成立按諸第二項之規定自應由會正式聘任

貴工程師爲本會諮詢工程師庶遇事協尚不致發生窒礙至應行備具之詳細調查報告及應得酬金均可如本項規定辦理惟

貴工程師來華日期有無提前或展緩必要仍應視測量進行情形如何由技術委員會逕商酌辦相應檢同聘函函達

查照辦理見復爲荷此致

柏滿工程師

中華民國十一年十二月十一日

函聘柏滿工程師爲本會諮詢工程師請查照文

逕啟者查我國揚子江流域綿長物產豐茂爲中部交通之要區比以年久失修險工環伏遂致水患侵尋商民交困

貴工程師學識湛深聲華久著茲特聘請爲本會諮詢工程師希卽發抒宿抱宏事動勳同慰
企望爲盼相應函達

查照此致

柏滿工程師

中 華 民 國 十 一 年 十 二 月 十 一 日

稅務處函復聘用柏滿工程師函件業發由總稅務司轉交該工
程師察收請查照文

稅務處公函 十一年 六七六

逕啓者關於聘用柏滿工程師調查揚子江水道一案現准

貴會第三十一號來函并附致柏滿工程師函件請即飭由總稅務司轉交並見復等因本處
業經閱悉除將原送函件發由總稅務司轉交該工程師察收並俟總稅務司呈復到時再行
函知外相應函復

查照可也此致

揚子江水道討論委員會

中華民國十一年十二月十五日

本會呈報文件

揚子江水道討論委員會訓令英國工程師柏滿業由會正式聘

任爲諮詢工程師該會自可隨時接洽俾資周妥文

揚子江水道討論委員會訓令第九號

令揚子江技術委員會

查聘用柏滿工程師調查揚子江水道一案上年係由總稅務司介紹經稅務處商同內務部在本會未成立以前作爲暫聘嗣准內務部將該工程師備具大略報告送請審核前來經令據呈以此項測量關係綦重該工程師原報告所擬預爲搜集各種資料衡以目前情形無論如何趕辦一時恐難竣事議決請予轉知該工程師將來華日期展緩一年以便從容測勘並經函准稅務處轉知總稅務司電達查照在案惟是該會各測隊測量進行手續及測勘成績在在均與該工程師將來復勘計畫有關現在該工程師業由會正式聘任爲本會諮詢工程師嗣後該會自可隨時接洽俾資周妥除函知稅務處飭由總稅務司轉知查照外合行照鈔

來往各函稿令仰該會遵照辦理此令

中華民國十二年三月二十二日

呈揚子江水道討論委員會爲本會開會情形請鑒核備案文

呈爲呈報事竊時利於本年三月十一日奉

令派爲揚子江技術委員會委員長楊豹靈周象賢沈秉璜方維因海德生額得志爲委員此令等因並奉

發下組織規則一份本會遵卽組織成立並於五月十六日起暫假內務部會議廳開正式會議到會人員計委員長陳時利委員額得志海德生楊豹靈方維因周象賢沈秉璜事務員長向迪琮等八人照章以委員長爲主席宣告開會由事務員長報告籌擬本會經費經過情形及起支日期畢當經各委員議定本會進行事項應依據本年三月四日呈報預算之報告辦理本會應設會所兩處北京爲總會所上海爲分會所並擬訂議事規則五條藉資遵守惟此項測量關係重大手續紛繁勢非特設測量總工程師一人實不足以謀畫一而策進行旋經各委員討論僉以美國工程師史篤培技術優良經驗閱富堪以派充本會測量總工程師之

職第藉材異地考詢宜周爲慎重遴選起見並擬俟該工程師到華後由會先期派員考察如該工程師所具學識果能勝任則由會正式延聘暫以一年爲期卽行組織測量隊定期出發至關於組織辦法及分區實測計畫等擬仍俟該工程師到華商定後再行另文呈報以期妥洽所有本會開正式會議大概情形理合呈報

鑒核備案謹呈

揚子江水道討論委員會會長

中華民國十一年五月三十日

呈揚子江水道討論委員會爲本會現正著手測量擬派員先行

視察請轉部飭令各該員前往協勘仰祈鑒核文

呈爲本會現正著手測量擬派員先行視察請轉部飭令各該員前往協勘仰祈

鑒核事竊查籌擬揚子江整理計畫首宜注重測量本會前次議決擬聘之測量總工程師史篤培現在業於六月十二日由美來華當經本會各委員會同悉心討論僉以此項測量關係綦重自非預爲派員前往視察實不足以資妥洽而利推行旋由各委員決定公推本會事務員長向迪琮會員方維因協同測量總工程師史篤培馳往長江流域視察漢口至上海一帶江流以爲將來設置測站之備預計此項視察日期約須半月擬請

准予迅賜咨行內務部轉飭僉事向迪琮諮詢工程師方維因遵照尅日前往協勘至級公誼除聘用測量總工程師史篤培合同現正磋商擬俟簽定後再行另文呈報外所有本會派員視察長江情形並請轉咨飭令前往各緣由理合呈請

鑒核訓示施行謹呈

揚子江水道討論委員會會長

中華民國十一年六月二十九日

呈揚子江水道討論委員會為聘用美國工程師史篤培為本會

測量總工程師業經簽定聘函繕具原稿仰祈鑒核文

呈為聘用美國工程師史篤培為本會測量總工程師業經簽定聘函繕具原稿仰祈

鑒核事竊本會前以揚子江流域測量事務殷繁責任綦重非特設總工程師一員規畫主持難資妥洽當經各委員公同討論僉以美國工程師史篤培堪充本會測量總工程師之職經議定俟該工程師來華由會詳加考察後再行正式延聘暫以一年為期曾於呈報本會正式開議案內詳晰聲明在案現在工程師史篤培業於本年六月十二日到京經會派員詳加考詢該工程師學識優長經驗固富且於菲律賓政府服務十餘年資勞卓著以之派充本會測量總工程師實能勝任愉快旋經各委員議決由會擬具聘函於七月一日會同該工程師正式簽定擬請

俯准備案並轉行外交部查明備案以昭慎重所有聘用史篤培為本會測量總工程師簽定

聘函各緣由理合繕具中英文原稿各二份呈請

鑒核備案指令祇遵謹呈

揚子江水道討論委員會會長

中華民國十一年八月一日

呈揚子江水道討論委員會爲陳報本會組織水平測量隊暨流

量測站擬請分電沿江各省轉飭接洽仰祈鑒核文

呈爲陳報本會組織水平測量隊暨流量測站情形擬請分電沿江各省轉飭接洽仰祈鑒核事竊查本會籌擬測量揚子江流域事宜擬先行派員視察以爲設置測隊測站之備曾經呈請咨行內務部轉飭僉事向迪琮諮詢工程師方維因遵照會同本會測量總工程師史篤培前往協勘在案現在該工程師等業經視察竣事由本會各委員共同討論僉以此項測量關係至重所有航業灌溉防災諸大端勢非並顧兼籌難期周洽旋經議決於上海地方設立滬駐測量處一所遇事秉承本會辦理卽以本會測量總工程師史篤培就近督飭執行至該處應置各職員計分總副工程師技師副技師練習員等職均由會遴派專門技術人員分別充任俾資佐理茲據該總工程師報告擬先組織測量隊二隊實測漢口至江陰一段水平並於沿江之漢口九江湖口大通等處分設流量測站先行著手辦理仍俟酌量情形徐圖擴

充等情本會復核無異擬請

准予備案仍請迅賜分電沿江各省轉飭所管地方官妥爲接洽隨時保護以重測務而策進行除測量人員擬俟派定再行呈報外所有陳報組織水平測量隊流量測站情形暨擬請分電沿江各省轉飭接洽各緣由理合呈請

鑒核訓示施行謹呈

揚子江水道討論委員會會長

中華民國十一年八月十三日

呈揚子江水道討論委員會爲海軍部海道測量局派員到會會

商測量手續情形仰祈鑒核文

呈爲海軍部海道測量局派員到會會商測量手續情形仰祈

鑒核事竊奉

訓令內開准內務部咨准海軍部咨稱據海道測量局呈復解釋水道測量各情形請查照分別辦理等因到部查貴會原定計畫關於海道測量會由總稅務司聲明海軍部有同時設局測量之主張應劃海軍部辦理茲原咨所稱揚子江技術委員會擬將揚子江地形及三角術之測量歸於海軍其水準流量之測量屬於該會等語究與成案是否相符應請海軍部轉飭海道測量局從速派員前往揚子江技術委員會會商測量手續以免重複請查照等因到會合行令仰該會遵候該局派員到會時會同妥爲籌商以重測務仍將會商情形具報備查此令等因奉此旋由海軍部委派海道測量局許局長來會面稱本會在揚子江流域辦理水

道測量事宜允與協助惟將來雙方執行測務應彼此預爲接洽以免同一測量轉費兩次手續等語當於十月六日開會討論各委員僉以許局長所稱關於航行測量人員所辦事項海軍部允許送交本會一節至深感謝至將來雙方執行測務應彼此預爲接洽辦理本會亦極表贊同惟此項意見業於七月十八日在滬會議時已由本會委員額得志君用非正式通知海道測量局查照現在應即將前次會議錄鈔送海軍部備案並請轉知該局以便將來接洽進行惟揚子江水道測量關係重大原定預算經費有限以後如遇需用船隻之測量亦深願海軍部慨予贊助此次海軍部幫助本會一部分測量係屬一種工程專科而本會會員又悉係工程專家將來遇有接洽事宜自必更易進行現在海道測量局聘用巡港司米錄司教練測量人員並以該員專與本會接洽測量事宜本會現亦派定測量總工程師史篤培專任對於該局接洽事項以上會議辦法除由會函陳海軍部外所有本會與海軍部派員接洽測量情形理合呈報

鈞鑒謹呈

揚子江水道討論委員會會長

揚子江技術委員會第一次報告書 本會呈報文件

中華民國十一年十月十九日

測量報告

第一章 地圖

本章首以地圖標題者冀以表明揚子江在中國之現勢俾閱者之便於瀏覽也圖凡二張首爲揚子江流域圖次爲漢口達海圖(凡附圖均見本冊英文報告內下做此)

第二章 組織

第一節 民國十一年測量處進行之情形

民國十一年七月十八日本會於上海舉行第三次會議議決測量進行計畫如左

測量處應先舉辦江陰至漢口一段之精確水準測量並於指定地點舉辦流量流速測量其地形測量則俟察度情形再議組織

按上之決議測量處因卽組織(甲)流量隊二隊一駐漢口一駐九江(乙)精確水準測量隊一隊由漢口開始實測九江流量隊隊員於十一年八月七日離滬漢口流量測量隊隊員於十一年八月十八日離滬精確水準測量隊隊員於十一年八月十一日離滬均經先後組織

成立十一年年終復由會議決議組織地形測量隊即經遴選隊員於是年十二月二十三日離滬十二年一月成立仍由漢口起測達於下游

本會對於水準測量曾經議決以舉辦精確者爲限緣吾國政府在昔於此項測量從未興辦而揚子江自漢口以下地勢平坦坡度較小設無此項測量不惟不足以得精確之成績且將來討論揚子江治水問題亦難謀縝密之解決茲就測量所得之成績而論揚子江坡度自漢口以東一百五十公里間其坡度每公里僅二公寸已極低平後此溯江而下其平坦當更有較勝於此者卽此證明精確水準測量之不可不辦也

精確水準測量初擬自下游起測以濬浦局測定之水準點爲起點該局此項水準點係以吳淞海平綫爲標準嗣因揚子江航行最艱之處在漢口九江間且地形測量隊亦須於此段起測故精確水準測量遂改由漢口起測而達於下游之蕪湖地方期與該處國有鐵路原測之水準點相銜接此項水準點前經濬浦局勘测亦以吳淞海平綫爲標準但非以精確測量法

測定者如此辦法則揚子江重要處所之坡度轉瞬即可測得而九江漢口間之地形隊所需之水準點亦可據為標準

第二節 薪俸表

民國十一年十月六日本會於北京舉行第四次會議決定技術員之薪俸如左

等	級	薪	俸
隊	長	三	百 元
一	等測量工程師	二	百五十元
二	等測量工程師	二	百 元
一	等測量副工程師	一	百六十元
二	等測量副工程師	一	百二十元
一	等練習員	九	十 元

	二等練習員		六十元	
	一等繪圖員		九十元	
	二等繪圖員		六十元	

第三節 職員銜名

測量處派定及辭退職員銜名截至民國十一年終列表如左

洋 員

職 務	姓 名	派 充 日 期	辭 退 日 期
測量總工程師	史篤培	十一年七月一日	
駛 船 員	歐勞孫	十一年八月廿二日	

華 員

		駐滬測量處		職	務	姓	名	派	充	日	期	辭	退	日	期
				書	記	長	楊景時	十一年七月十三日							
				打	字	員	顧紫荃	十一年七月十三日							
				事	務	員	繆寶鴻	十一年七月廿五日							
				事	務	員	周正賢	十一年七月十九日							
				一	等	練	習	員	顧鼎	十一年八月一日					
				一	等	練	習	員	朱士俊	十一年八月七日					
				繪	圖	員	沈仲康	十一年八月十六日							
九江流量測量隊															
	署	隊	長	劉世華	十一年七月廿二日										
	二	等	測	量	副	工	程	師	趙履祺	十一年七月廿二日					

		漢口流量測量隊			
一等練習員	章錫綬	十一月廿九日			
一等練習員	沈寶璋	十一月八月四日			
事務員	楊蔚丞	十一月八月五日			
		漢口流量測量隊			
署隊長	黃滿如	十一月八月八日			十一月八月十九日
署隊長	邱鼎汾	十一月九月一日			
一等測量副工程師	林友龍	十一月七月十三日			
二等測量副工程師	王國藩	十一月八月一日			
一等練習員	陳湛恩	十一月八月十九日			
事務員	阮仲明	十一月八月八日			十一月九月十五日
事務員	劉錫三	十一月十二月一日			
水準測量隊					

地形測量隊

署	隊	長	李謙若	十一年八月五日	
二	等	測量工程師	萬樹芳	十一年八月一日	
一	等	練習員	沈景初	十一年八月十二日	
二	等	練習員	顧宗杰	十一年八月七日	
事	務	員	李益恭	十一年八月十日	
署	隊	長	吳南凱	十一年十一月八日	
二	等	測量工程師	楊廷玉	十一年十一月廿三日	十一年十二月一日
二	等	測量工程師	林秉珪	十一年十二月三十日	
一	等	測量副工程師	曾鴻	十一年十二月廿六日	
一	等	測量副工程師	林固	十一年十一月廿四日	
一	等	練習員	王瑞麟	十一年十二月十一日	

			一等練習員	滕心淵	十一年十二月五日	
			一等練習員	姚文尉	十一年十二月二十日	
			二等練習員	章天鐸	十一年十二月一日	
			二等練習員	張朝銓	十一年十二月廿三日	
			二等練習員	陸超	十一年十二月十一日	
			二等練習員	馮旦	十一年十二月一日	
			二等練習員	顧家模	十一年十二月十五日	
		事務員	吳大章		十一年十一月二十日	
		記錄員	蔡金鑫		十一年十二月廿三日	
各隊總事務員						
總事務員	楊士廉				十一年十一月廿一日	

第三章 民國十一年測勘水量流量成績

第一節 水尺

本章關於海關舊設水尺及海道測量局暨本會新設水尺均於第二圖詳之

(凡圖表見本冊英文報告內下仿此)

(甲) 海關水尺

中國海關曾就鎮江南京蕪湖九江漢口岳州長沙宜昌重慶等處設置水尺察視水位高低自清光緒二十六年迄今逐日均有記載並繪成圖冊存案備查本會成立伊始關於測量進行幸賴此項圖表參攷獲益實非淺鮮前項海關圖表現經本會編成圖表以備應用第三圖所繪曲綫僅限於一九零零年一九零五年一九一零年一九一五年及一九二零年者亦可見其記載之精密也

(乙) 新設水尺

本會業於湖口小孤山大通等處設置新水尺又於鄂城縣石灰窰蘄州等處就舊有海關

水尺詳加觀察所得成績關於水面曲綫者參觀第十三第十四第十五第十六各圖可略見一斑其餘成績係以漢口水尺零點爲標準可參觀第十八圖

(丙) 水尺地點

已設及將來應設各水尺於第二圖表明之本會所設及將來應設各水尺地點在漢口與大通之間至海軍部海道測量局所設及將來應設之各水尺地點則限於大通南京之間

第二節 流量

本會組織駐滬測量處之初適當七月是時揚子江流量爲一年中盛漲最大期間因即積極籌備測勘且得滄浦局與海關港務處之贊助借給應用器具因之此項最大流量成績得以勘測完備

第四圖係本會測流量時所用之舢板圖至流量之攷察必須先求斷面暨流速兩項另於後章詳晰說明之

(甲) 測站斷面圖

第五及第六兩圖係表明本會測隊所測揚子江與漢江斷面之地點第七第八第九第十第十一各圖係表明在各測站所測定揚子江及漢江兩河斷面之形勢其實測之日期均載明圖內上項各測站係在漢口九江湖口大通及漢江橋口等處每圖除水面之高度外並記有河底之情形而各斷面因泥沙淤積及衝刷所發生之變遷亦詳細表明圖內

(乙) 測站斷面之流率

(一) 直測流速曲綫

本會爲謀參攷便利起見特將流速及斷面併繪一紙此項流速係用測流器測得測流方法則用測流器在河面及河之各深度分段而測以所得結果繪成曲綫形是謂直測流速曲綫其流率速度及地位均於各圖內表明茲以各測站在洪水時所得之直測流速曲綫及在低水時所得之直測流速曲綫各一份表明之至在其他水位所得之曲綫

亦用同樣方法測得繪成

(二) 流率

在直測流速曲綫下附極關重要之比例表(一)表明水面流速與流率之比例(二)表明距水面二分深處之流速與流率之比例(三)表明河底流速與流率之比例

下表係表明研究直測流速曲綫之結果 $v_m \setminus v_s$ 流率與水面流速比例 $v_m \setminus v_s$ 爲流率與在二分深處及八分深處所測得之平均流速比例此比例數 $v_m \setminus v_s$ 大概爲壹實世界各河所同也

(三) 最大流速綫與平均流速

下表係表明各處最大流速綫與所求得之平均流速

(四) 流速同速綫

第十二圖係表明各測站在某日所測之斷面內各段流速不同之點至流速同速綫係

照水準同高綫之方法同樣繪成

(丙) 測站水面綫及流量曲綫

第十三十四十五十六各圖係表明各測站之水面綫流量曲綫流率及平均面積流量曲綫之繪製係就斷面之平均面積與平均流速折合而得故此項流量曲綫係表明各段而約略之平均流量

本報告對於漢江之橋口流量曲綫尙付闕如蓋漢江之流量與揚子江之水勢極有關係漢口地方揚子江之水面漲落無常懸殊亦巨影響及漢水流量極大故橋口之流量曲綫於實際上殊無價值欲知某日之流量數目可就其日之水面高度由各站之流量曲綫推算據此則自開工日起迄於年終無論何日均可本是計之

下列之表係表明自開始工作起至年終止所得各測站之流量數

(丁) 成績表

民國十一年之揚子江流量表

附注 就上表所列之流量觀察即可知鄱陽湖與揚子江河流之關係也茲就九江湖口兩處流量曲綫參看可知十月十五日在九江揚子江之流量爲每分鐘三萬零三百五十五立方公尺同時在湖口鄱陽湖下游之流量爲每分鐘四萬三千一百二十五立方公尺兩數相差爲一萬二千七百七十五立方公尺或爲百分之三十之流量卽爲鄱陽湖流入揚子江之流量由此可知該湖是日有極大之流量注入揚子江中顧江之濁流與湖之清流雖皆就下然數英里外二流並不相混故揚子江在盛漲時有極大之流量經湖口流入鄱陽湖而水低時亦有極大之流量由湖中注入江內（此種情形本會於本年實測證明）

總上之兩種情形則知（一）揚子江在洪水時下游因鄱陽湖之容納可減少其流量（二）揚子江在水低時下游得鄱陽湖之宣洩可增加流量二者於事實上均有極大之裨益

第三節 水準及坡度

(甲) 精確水準測量

精確水準測量隊截至年終可測至距漢口一百五十四公里之漳源口此項水準業已往返復測而在此距離間之相差數爲十六公分即一三公分（即一三公分）本會規定之相差數限制爲五公分（即五公分）故此段水準極爲精確本隊所用水準標尺爲德國最新式之伸縮金類所製

至普通水準測量隊亦將水準點復測而在此距離間之相差數爲七十五公分即六公分（即六公分）以上之相差數在普通水準測量亦可謂爲精密

第十七圖係表明精確水準測量之成績

精確水準測量之費用十月分每公里計二十六元七角九分十一月分每公里計二十八元四角七分十二月分每公里計三十二元四角三分該隊所測之地方地勢崎嶇既無鐵道又乏良路交通阻滯進行困難加以普通水準隊之經費故所費因之增多願此項測量

與普通水準測量其精確自有不同且所得之結果尤有永久之價值

(乙)同時水面綫

以精確水準測量所得之成績及各站之水位記載製成(可參觀第十八圖)揚子江各站之同時水面綫由此即可推算河面之坡度揚子江坡度之平均數為每公里相差二公分即每一英里相差一英寸下列之表係表明某日河面之坡度以距離漢口迤東一百五十公里間之一段為限

第四節 河底變遷

治水之道重在考察河流淤墊之成分及衝刷之形勢揚子江為最大河流其淤墊成分及衝刷形勢變遷至巨漢口九江之海關河泊司對於此種情形知之最稔本會派員與之商酌後即擇定第五第六兩圖所指之地點從事測量此項成績以第十九二十二二十三三十三三十四三十五三十六三十七各圖表明之報告內第八圖為民國八年滄浦局所測之揚

子江河底圖及本會本年在同處所測之河底圖可知揚子江河底變遷之情形也

第五節 雨量

揚子江流域內之雨量本會現已著手考察第二十八圖之雨量同量綫係根據上海徐家匯天文台彙集之記載繪成此外尚有各種記載一時未能搜集完備擬俟詳細調查後再隨時修正

第四章 民國十一年支出經費

本處支出欸項自開辦日起至十一年年底止詳於下列表內其表所載普通費一項係賅括(甲)煤火(乙)犒賞護兵等項(丙)建築及工程費(丁)醫藥費(戊)郵電費(己)雜費又表內所載普通存儲材料費一項係賅括駐滬測量處所存之各項器具材料以備隨時撥發應用

揚子江技術委員會駐滬測量處民國十一年由開辦日至十二月三十一日經費支出表

第五章 民國十二年應辦事項

民國十二年應辦事項業由本會規畫進行此後仍須庶續擴充而各項議定事務亦須積極籌辦

本會所定應辦事項其一部分已由濬浦局著手辦理該局不惟將江陰達海之一段詳細測勘且於蕪湖以下凡海潮所及之處詳加研究故本會應辦事項因之頗蒙利便

本會第一段應辦之測量係濬浦局尙未考察之地方即漢口至蕪湖之一段而蕪湖至吳淞一段濬浦局雖經得有成績惟本會爲通盤計畫起見仍須將該局所得成績一併詳細研究

第一節 船隻

本會爲進行測務利便起見議定購辦摩托舢板一隻又小輪船兩隻其尺寸約由五十五英尺至八十五英尺預計十二年初即可招標訂購

第二節 水尺

本會擬於民國十二年初將各處所設水尺增加第二圖係表明各水尺之地點預計十二年
初即可將各水尺安設完備開始記錄本會所安設水尺之地點係在漢口大通之間卽揚子
江自漢口迤東不受海潮之一段第二圖中有×附記者卽爲海軍部海道測量局擬設水尺
之地點本會對於該局所設水尺尙未決定辦法緣此項水尺距本會駐潯辦事處較遠且所
需經費亦鉅而此段水面受海潮影響勘測又難精確擬留俟異日再定辦法

本會近議決將水尺度數定爲英尺以期與海關水尺一律故將來所得之水面高度皆爲英
尺但一應計算計畫仍悉用公尺

第三節 流量

漢口九江兩處流量測量隊須繼續測量漢口九江湖口大通等處流量而在蘆筍洲戴家洲
張家洲等處之流量亦須詳細分測以明正流支流洩水成分其餘緊要各處之流量擬並著
手辦理

第四節 水準暨坡度

精確水準測量隊已於民國十一年八月由漢口起點開始實測現仍應繼續測量至蕪湖鐵道水準標爲止將來由漢口至海之水面曲綫可就本會及海關設立水尺所得之成績補行繪成俾臻完璧

精確水準測量隊測至蕪湖後擬令該隊再由下游溶浦局所設之水準標向上游測至蕪湖

第五節 河底變遷

關於揚子江河身淤墊及河岸冲刷情形現仍應繼續考察其沿江重要地方擬並特加研究如鎮江碼頭一帶河形高仰妨碍商務運輸至爲重大以後仍擬特別注意（參觀第二十九圖）

第六節 泥沙成分

民國十一年內對於揚子江泥沙成分尙未詳晰研究預計十二年初即可開始辦理其辦理

各段仍以未經濬浦局研究之地方爲限

第七節 雨量及其流入河內之部分

上海徐家匯天文台曾將揚子江流域一帶之雨量記載供給本會研究蒙利匪淺茲本會擬於民國十二年在揚子江流域一帶重要地方添設量雨站委託內地教會教士協助聞各教士對於辦理此項事務均極端贊助也

兩水流入河內之部分將來亦須從事研究但此事範圍較廣所得之結果亦祇能知其大概而已

第八節 地形測量

本會地形測量隊擬依據民國十年柏滿海德生楊豹靈諸工程專家查勘揚子江後所述之揚子江極險要各段先行著手測量下列各處卽係上述之險要各段參觀第二圖自可瞭然

(一)漢口(二)葛店(三)蘿葡洲(四)得勝洲(五)戴家洲(六)大藥山(七)張家洲(八)糧

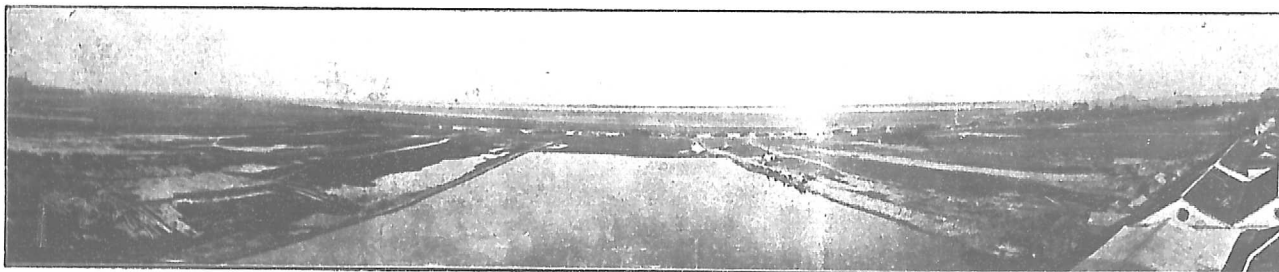
洲(九)東流洲(十)姚家洲(十一)新洲(十二)崇文洲(十三)錢家河(十四)黑沙洲(十五)陳家洲(十六)尙寶洲(十七)鎮江(十八)海北港沙(十九)通洲

地形測量隊對於水患及洩水問題亦須沿江詳加研究

第九節 圖表

本報告書前已聲明本會辦理測量爲時短促曾與海軍部海道測量局商定凡揚子江下游之三角測量由該局與本會協同辦理該局所得成績應交本會俾供參攷擬俟民國十二年卽將雙方所得之成績彙編成冊以供參考

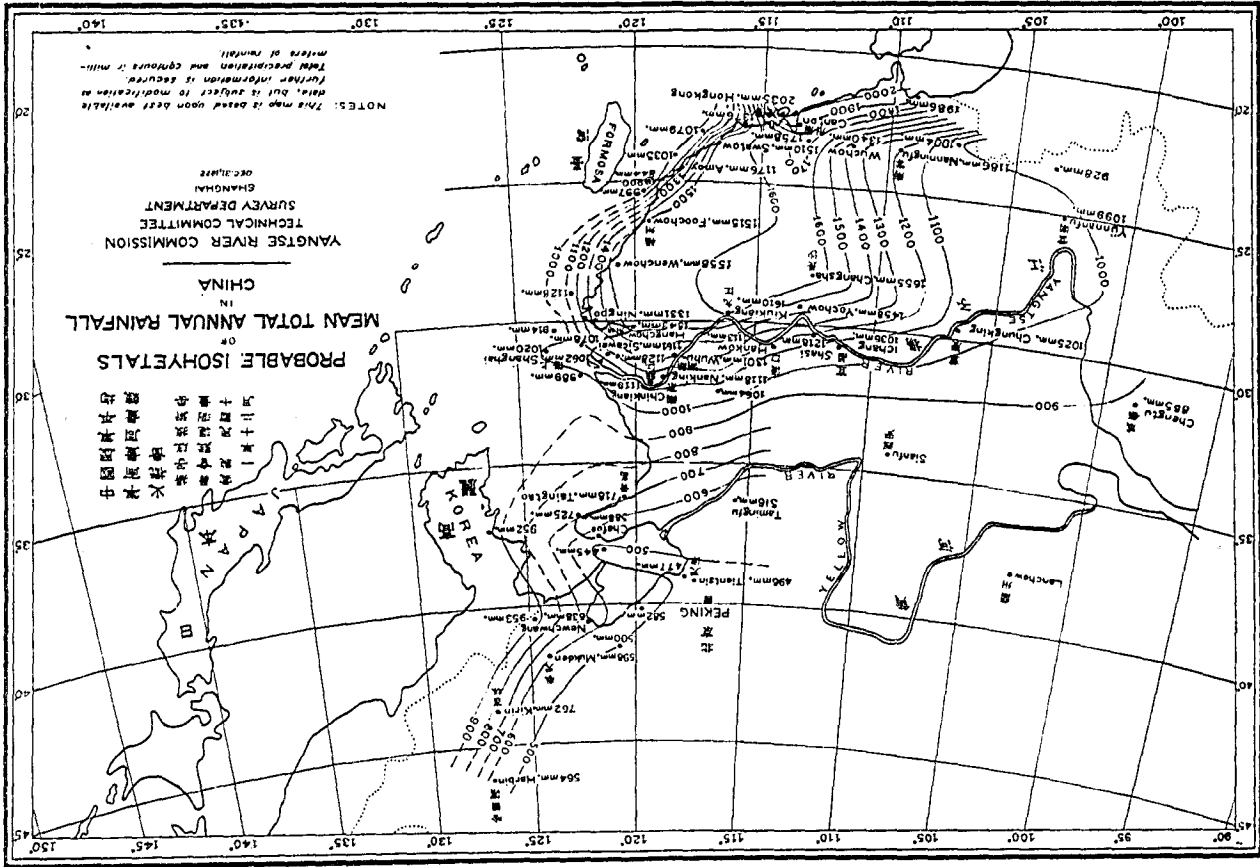
圖
表

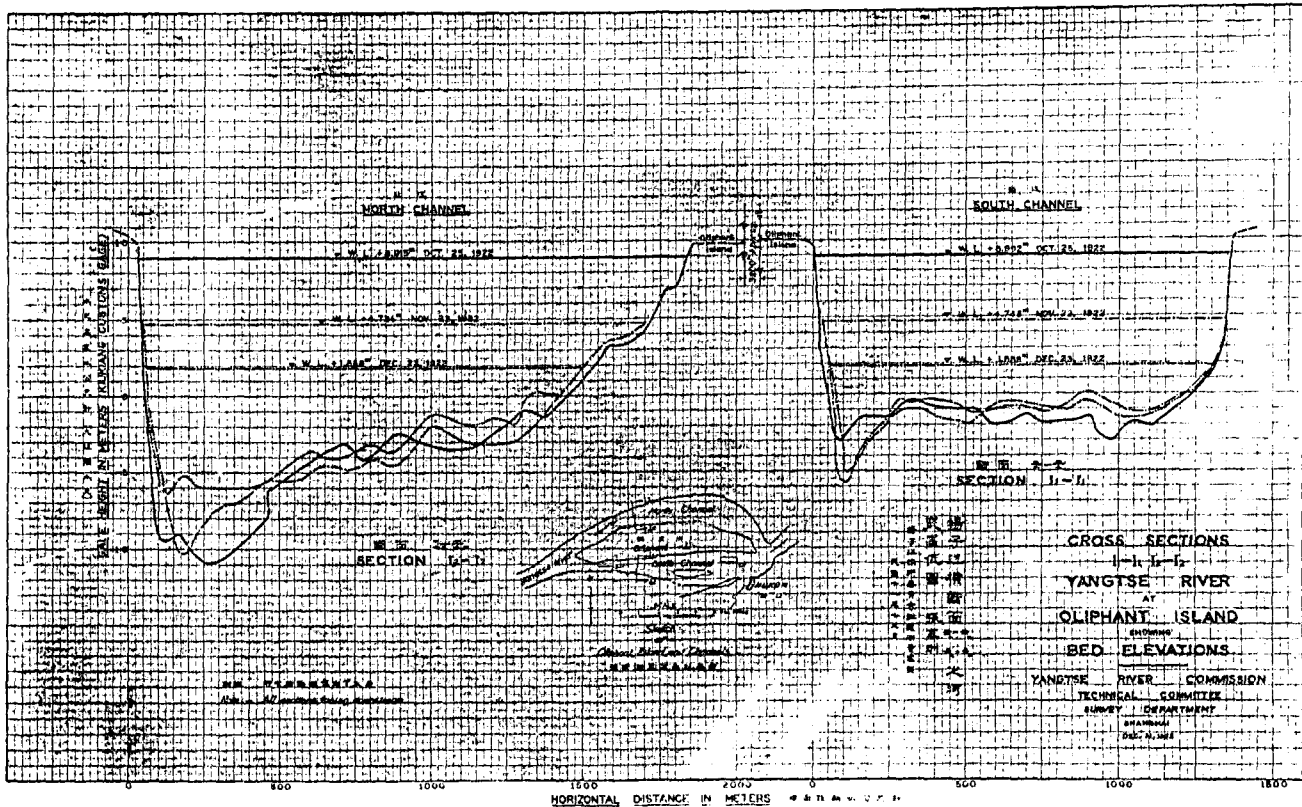


VIEW OF CHINKIANG HARBOR FRONT

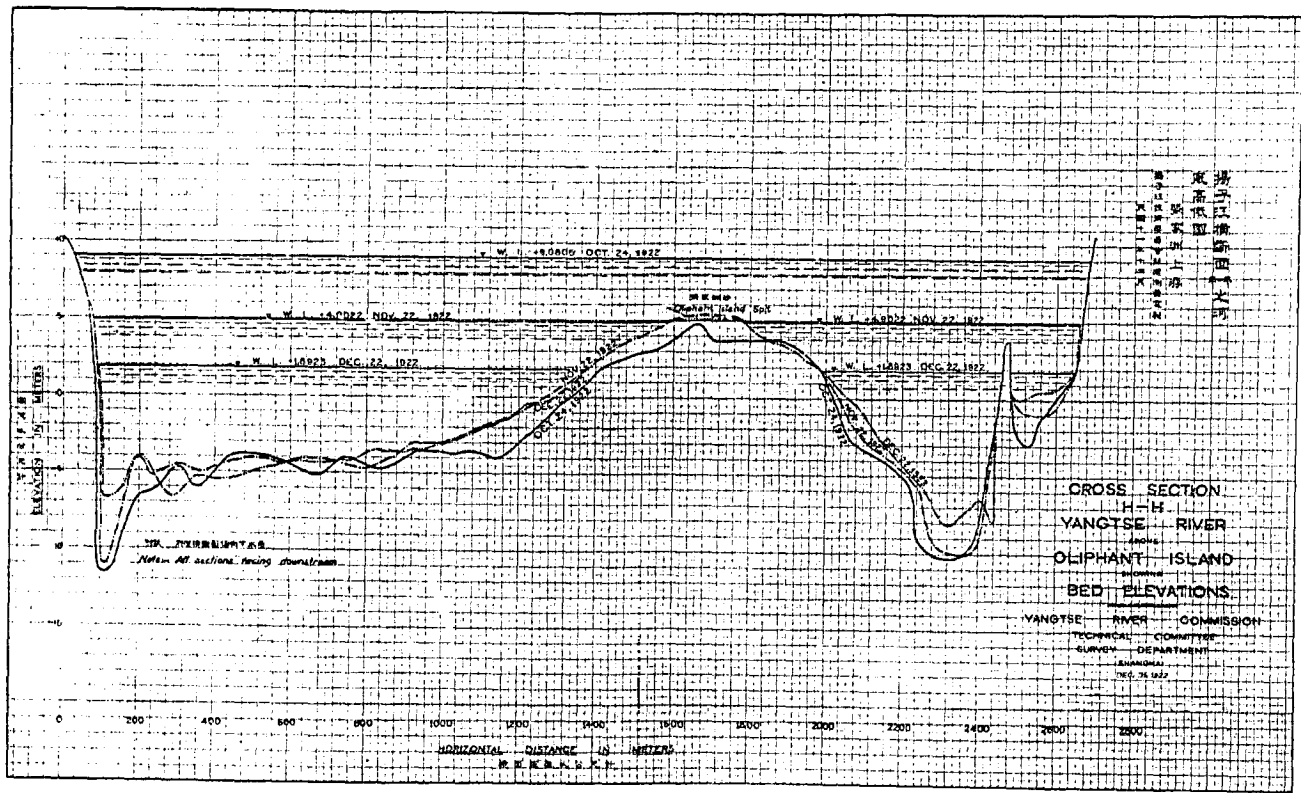
PLATE 29

Note: In the right foreground can easily be seen the remains of piling that supported the walkways leading from the shore out to the hulks that were located, until recent years, at the end of these walkways, near what appears in the picture as a creek bearing small floating craft. The pagoda at the extreme left is located on land now connected with the mainland but which, within the memory of people living, was an island.



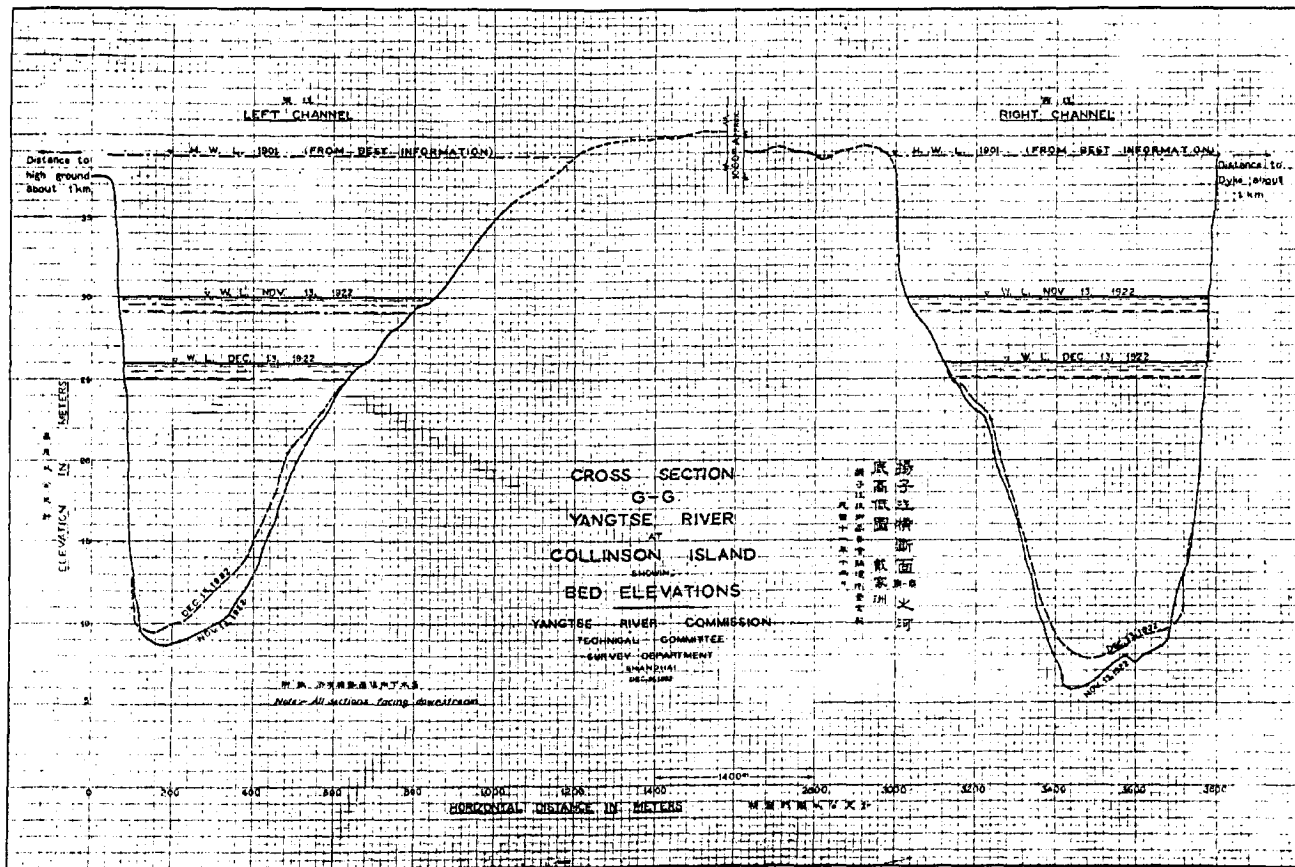


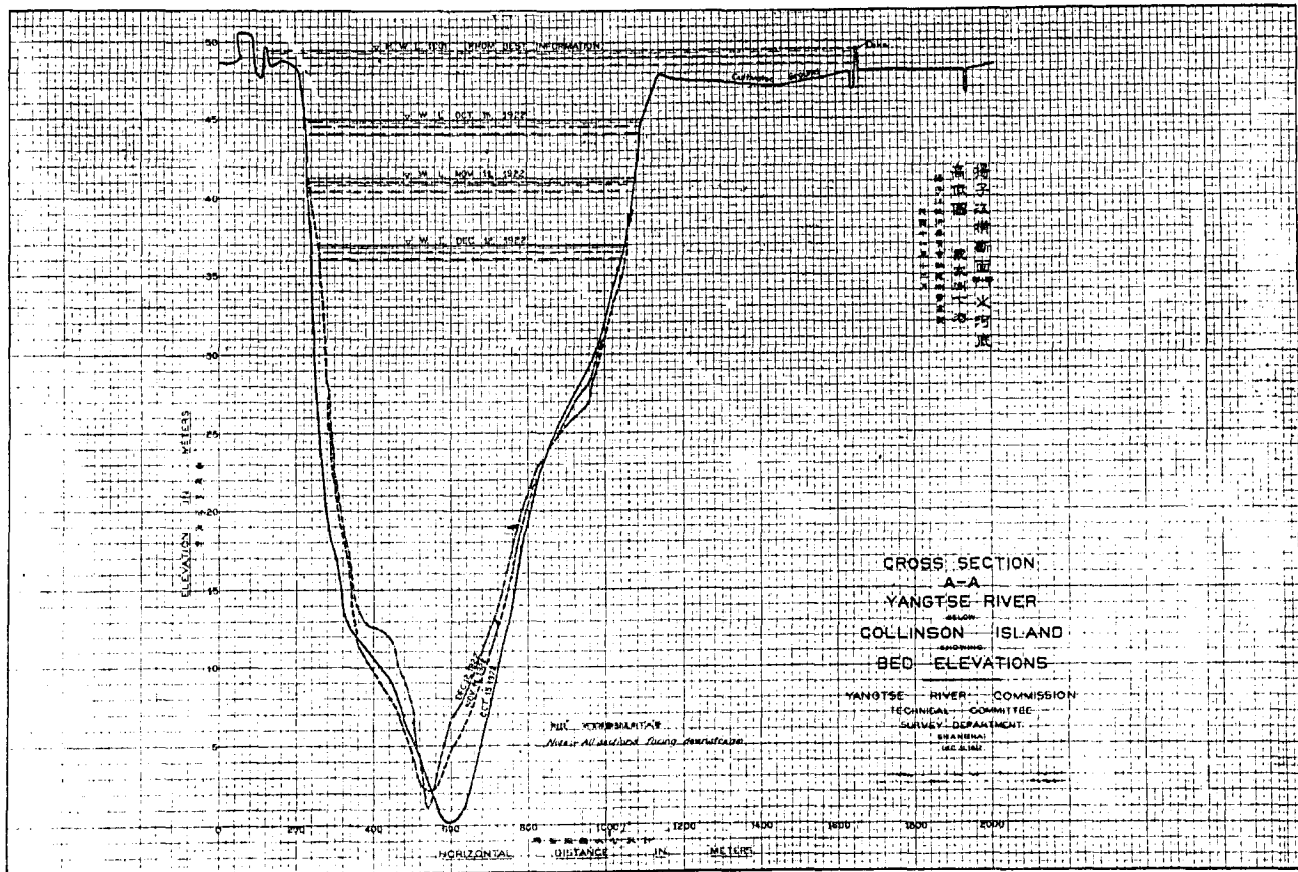
长江水利委员会
 技术委员会
 测量部
 南京
 一九三二年
 十月

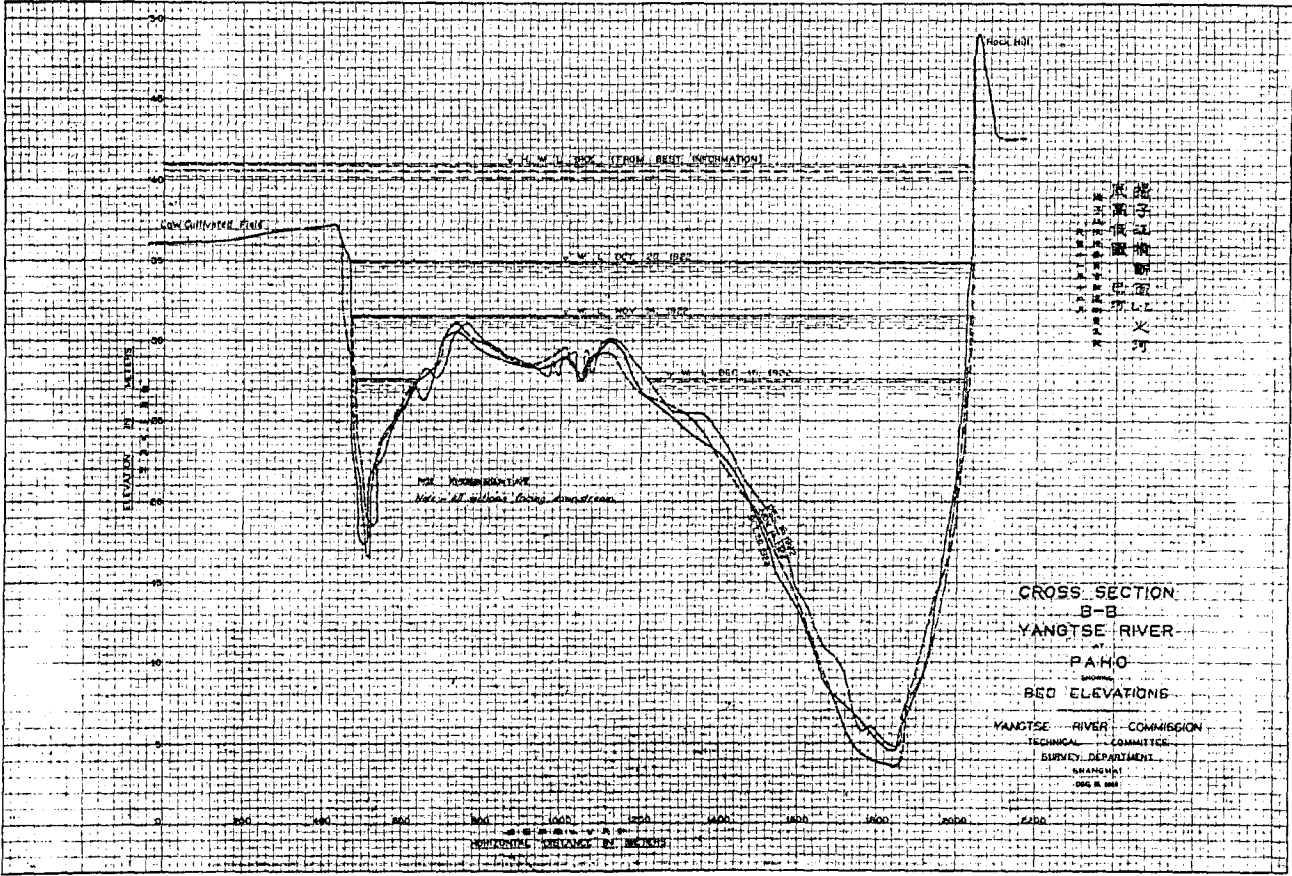


CROSS SECTION
 H-15
 YANGTZE RIVER
 OLIPHANT ISLAND
 BED ELEVATIONS

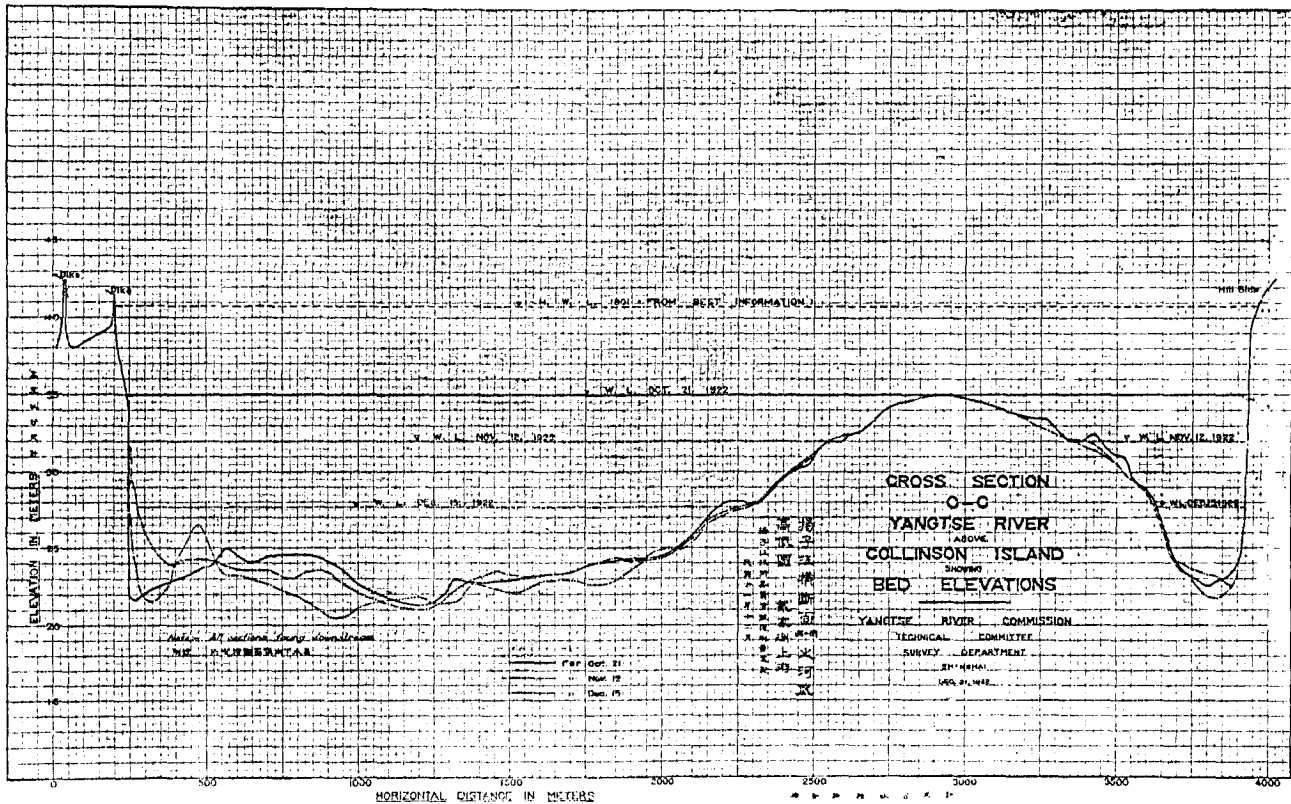
YANGTZE RIVER COMMISSION
 TECHNICAL COMMITTEE
 SURVEY DEPARTMENT
 SHANGHAI
 NO. 76 1932

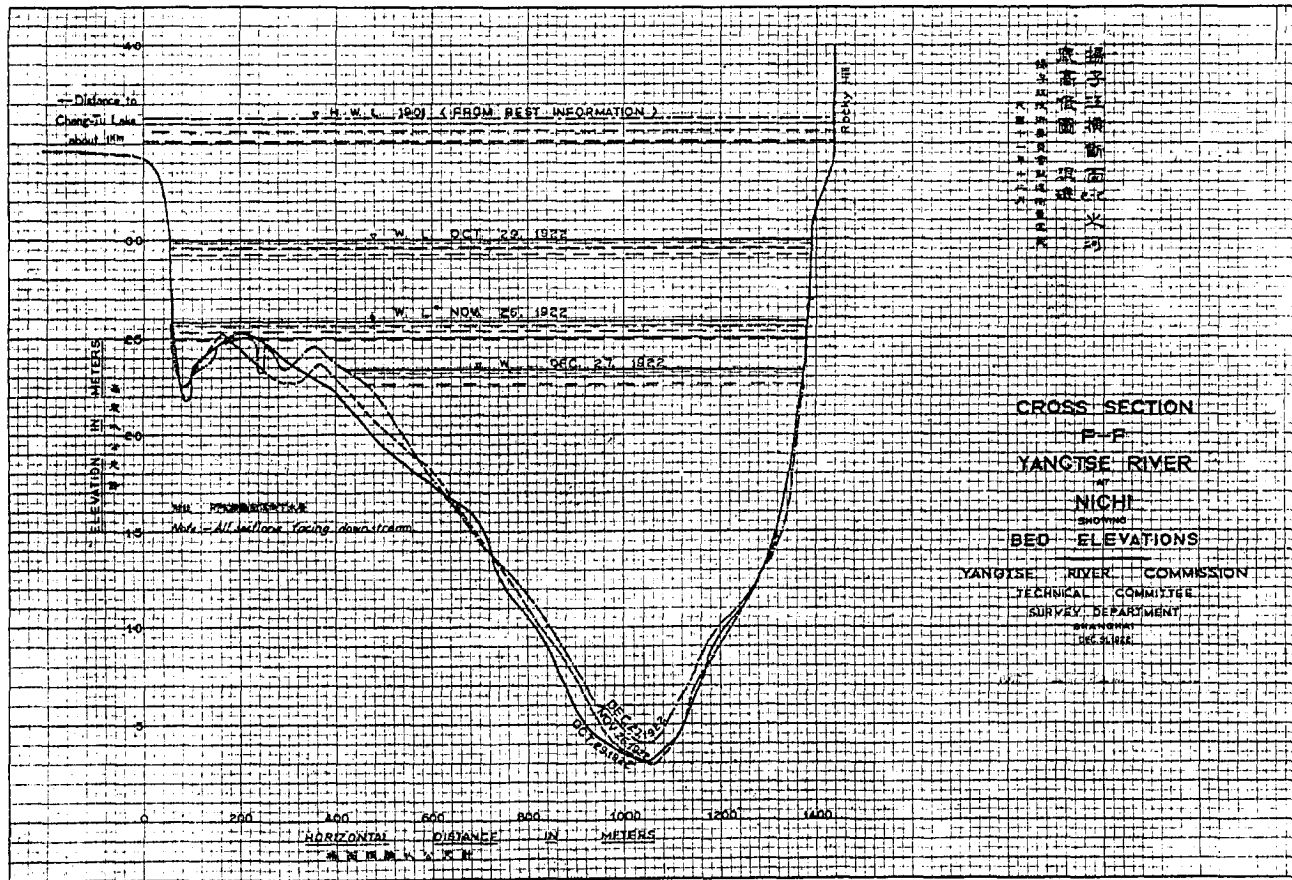


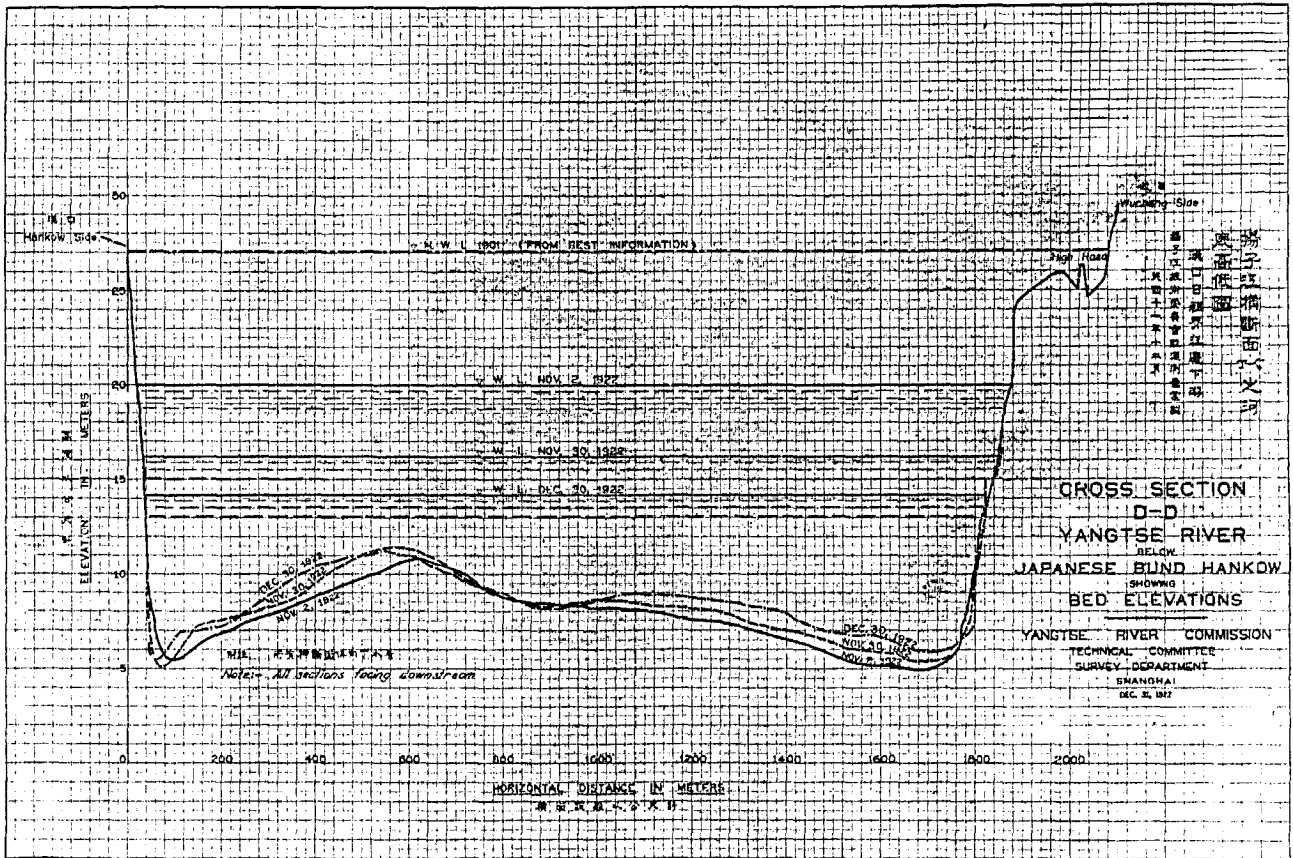


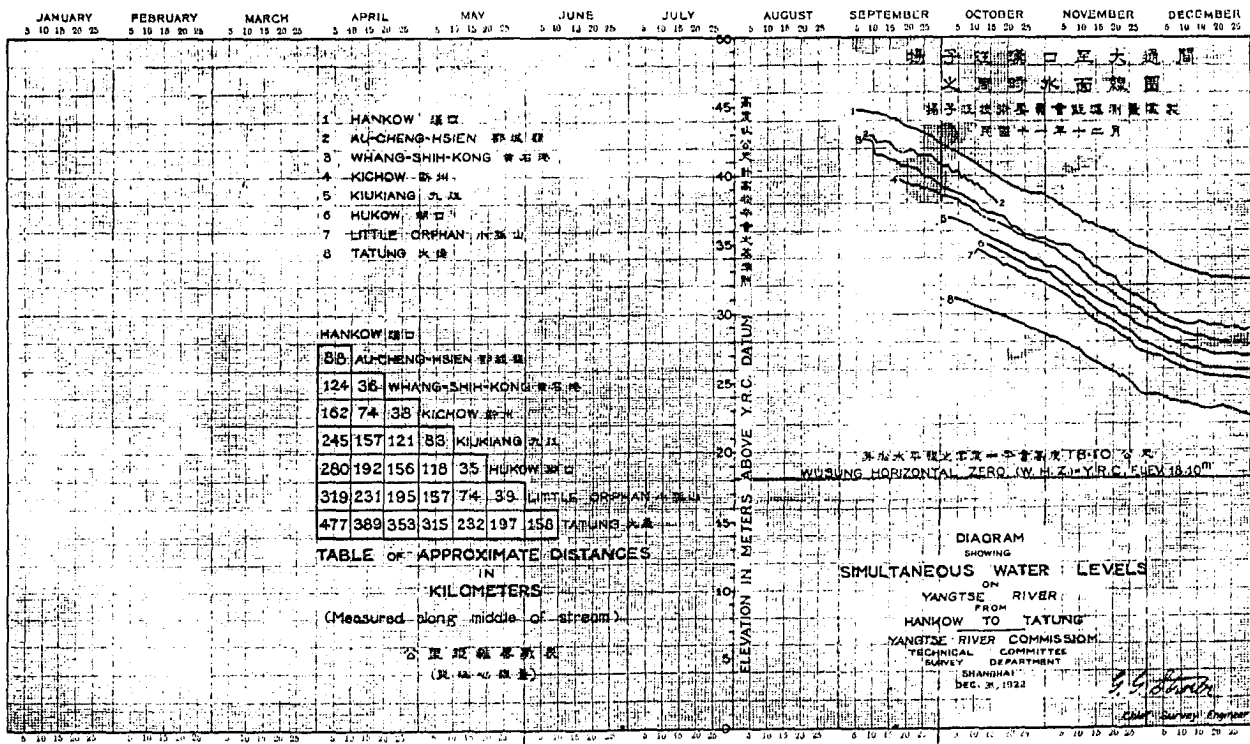


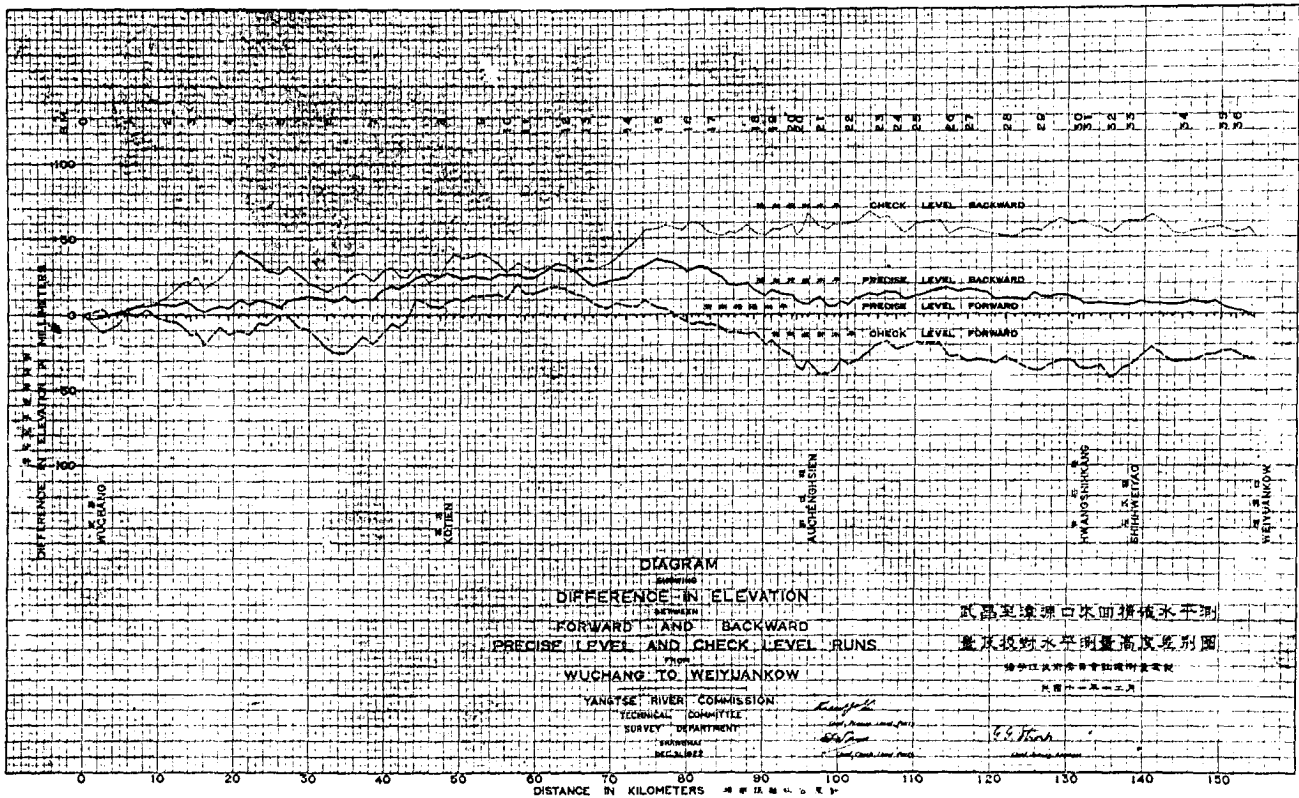
床
 石
 層
 地
 質
 學
 圖
 說
 火
 河





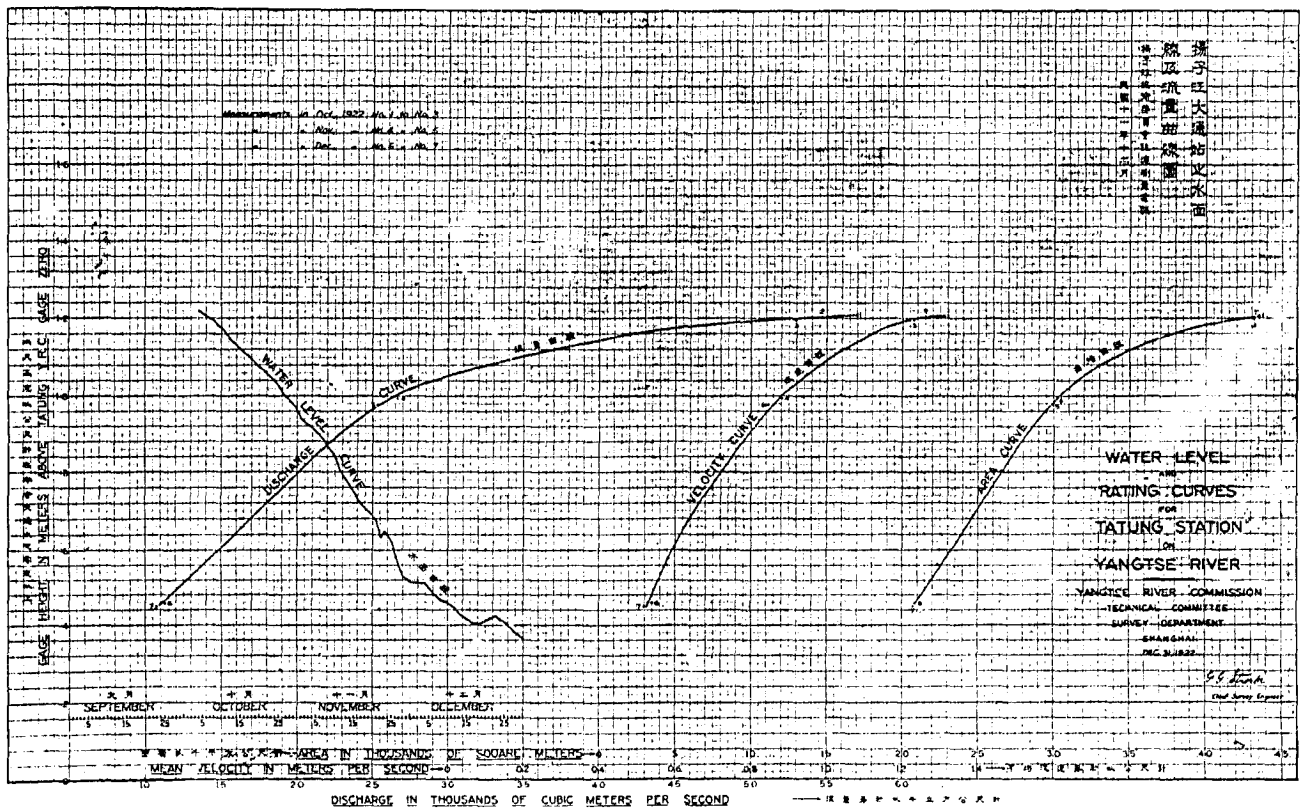




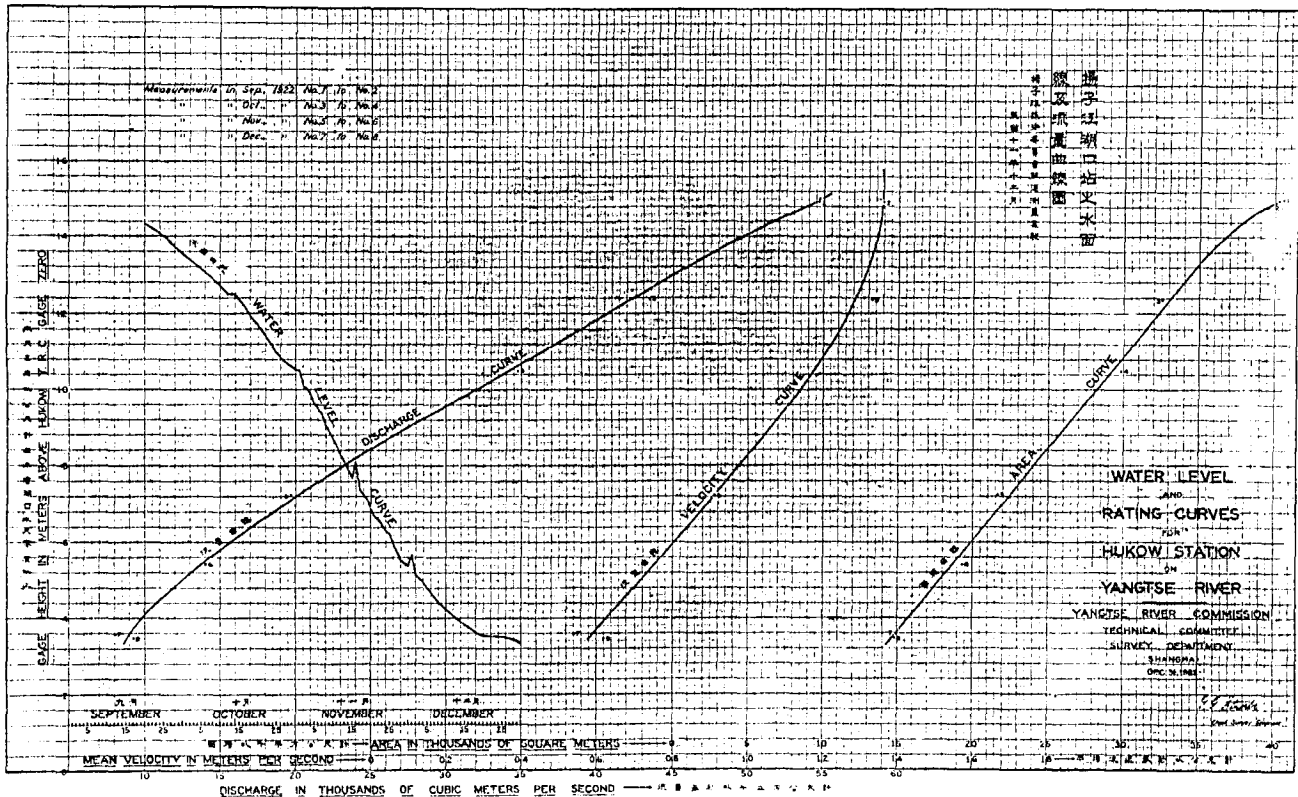


漢口紅大橋附近水位
 漢口航運局測量
 測量日期：一九二二年九月
 測量地點：漢口紅大橋附近

Measurements in Oct. 1922, No. 1, No. 2,
 No. 3, No. 4, No. 5, No. 6,
 No. 7, No. 8, No. 9, No. 10, No. 11, No. 12.



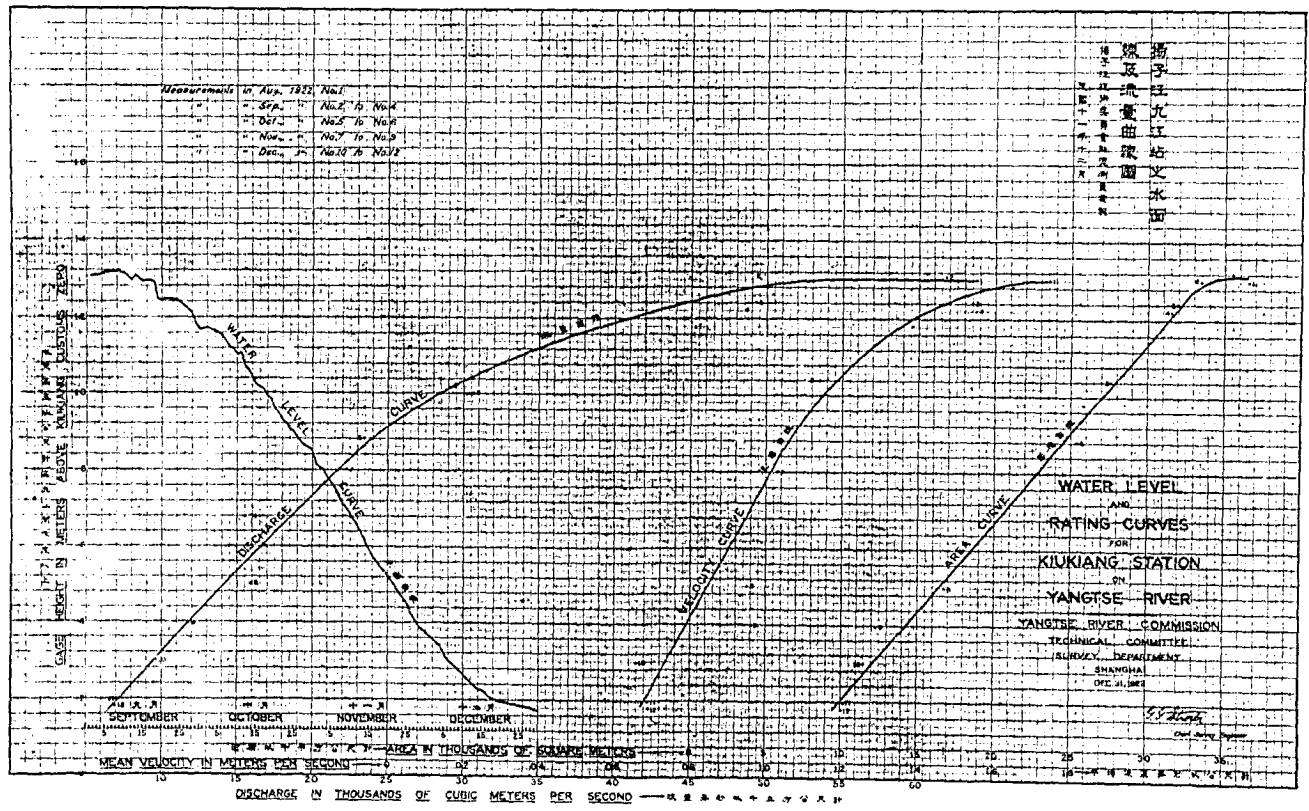
S. S. Kwan
 Chief Survey Engineer

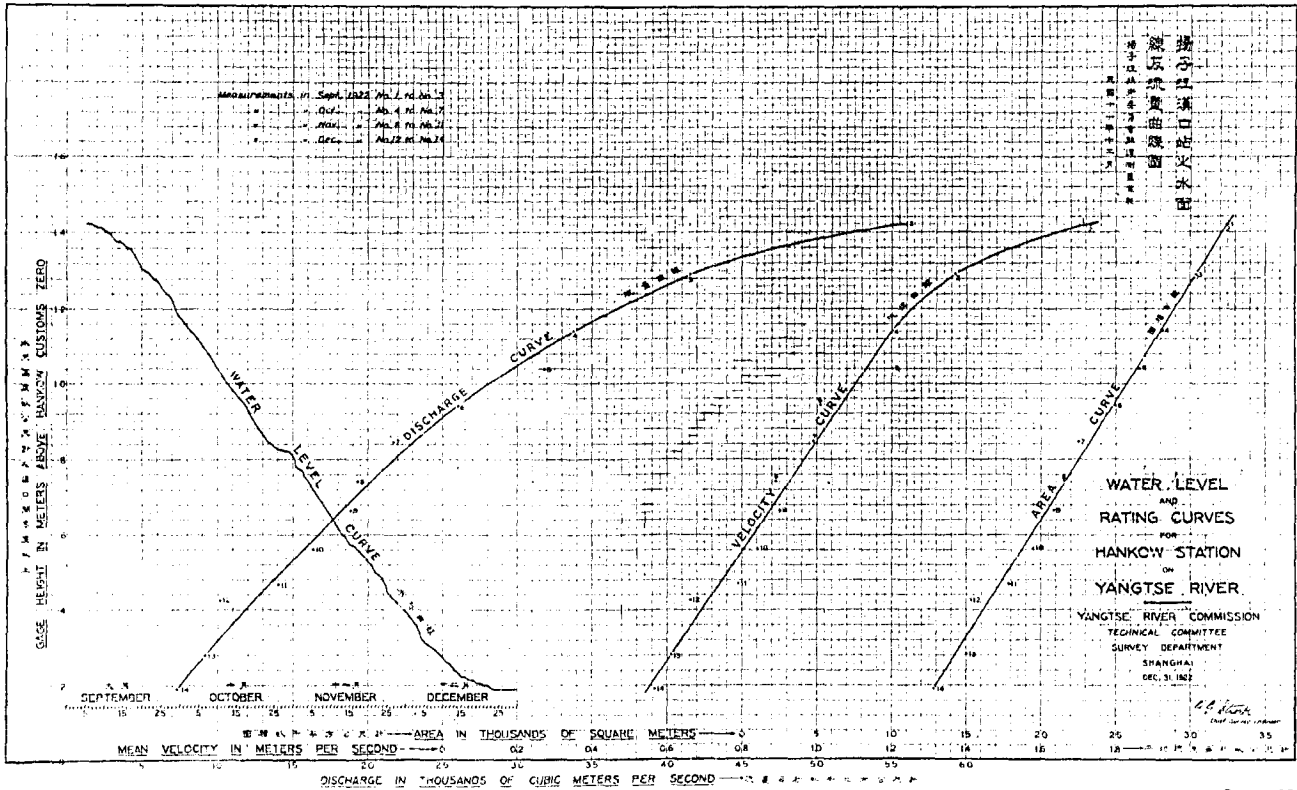


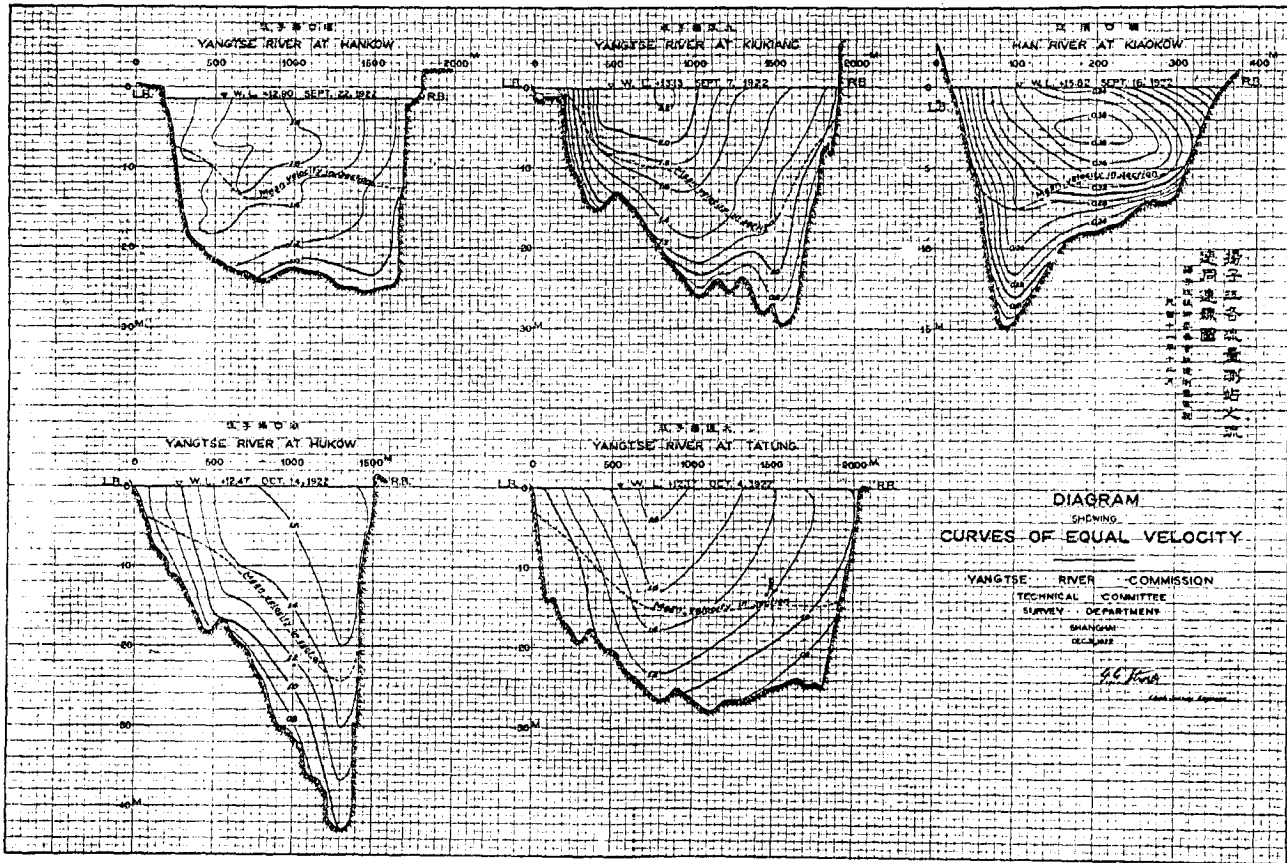
測量日期
九月
十月
十一月
十二月

揚子江九江站水文
 及流量曲線圖
 民國十一年十二月

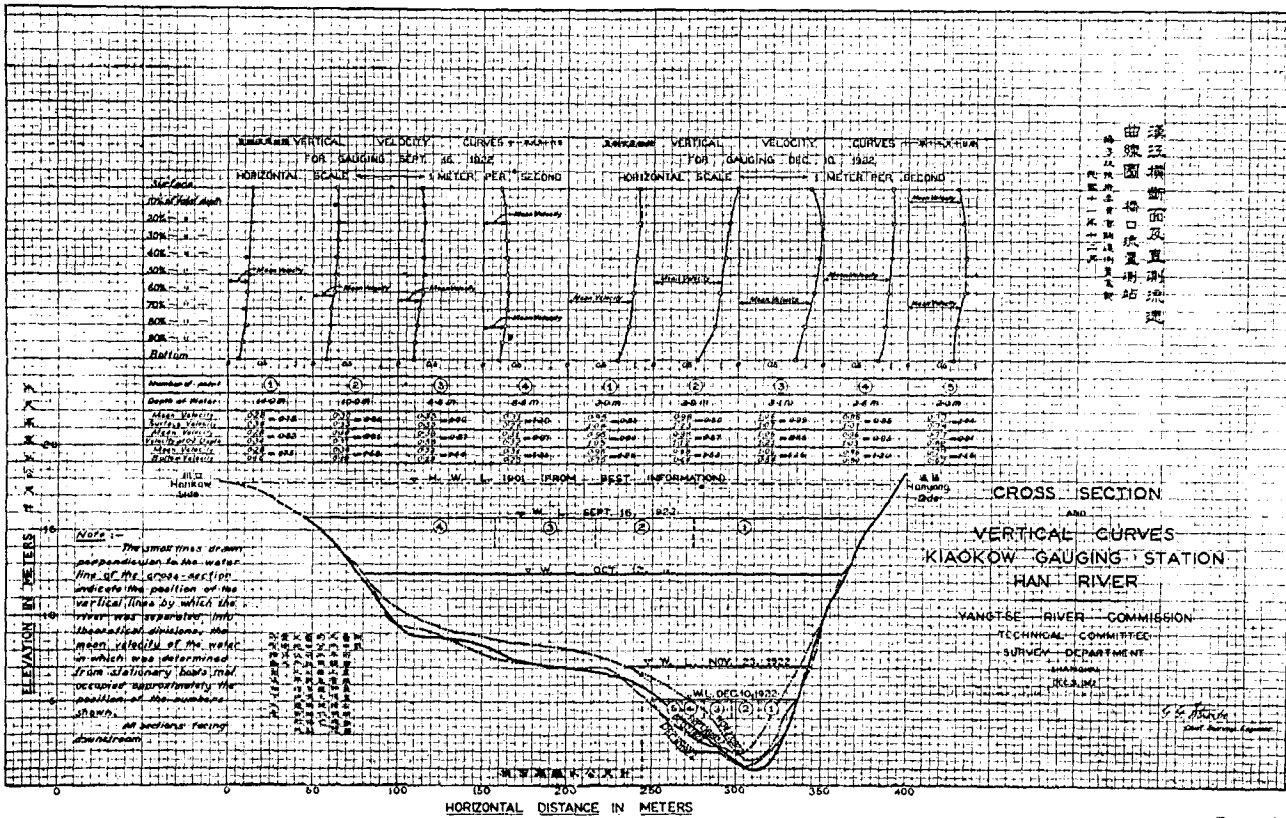
Measurements	in Aug. 1922	Nov.
"	"	Nov. 15 No. 4
"	"	Nov. 16 No. 4
"	"	Nov. 16 No. 5
"	"	Nov. 16 No. 5
"	"	Nov. 16 No. 5
"	"	Nov. 16 No. 5
"	"	Nov. 16 No. 5

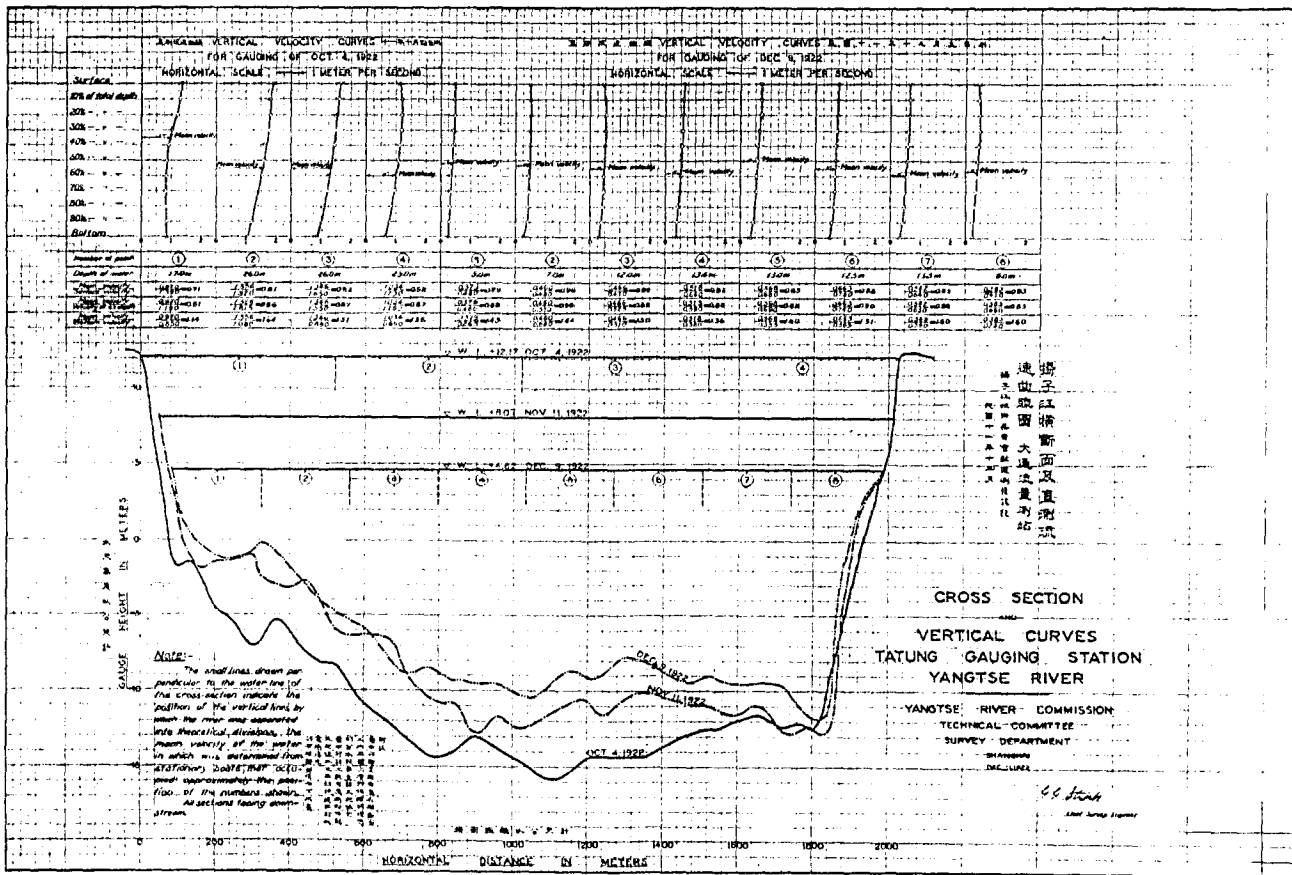


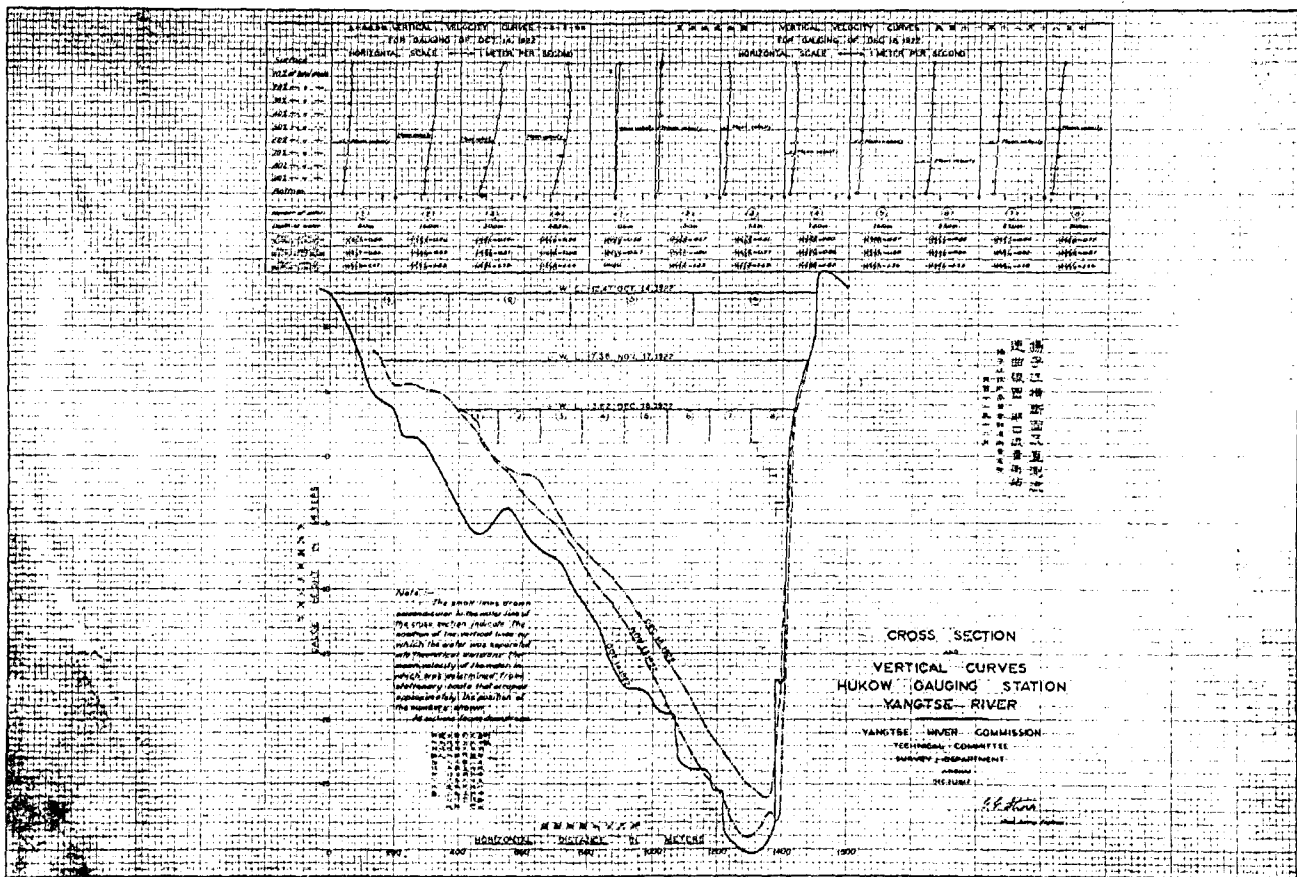


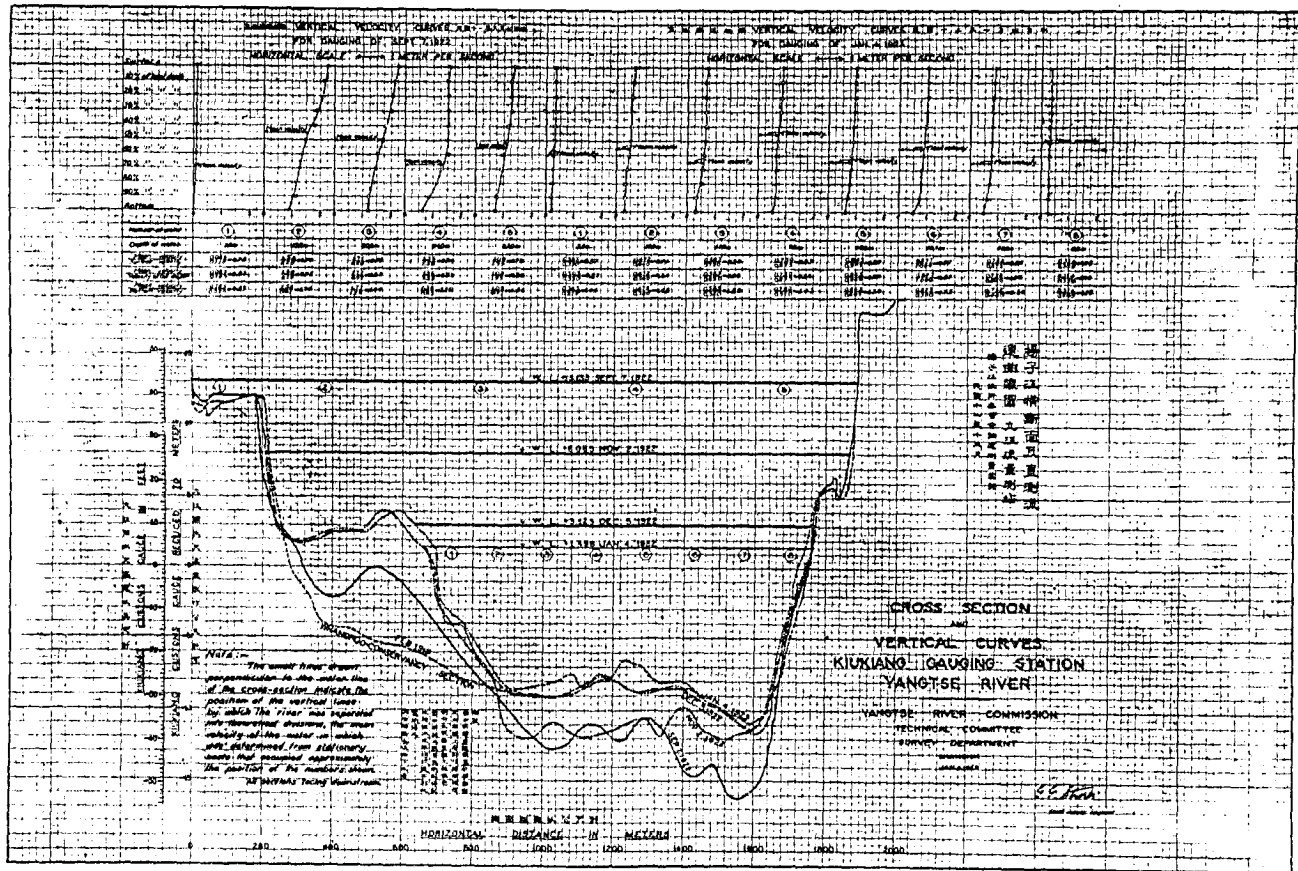


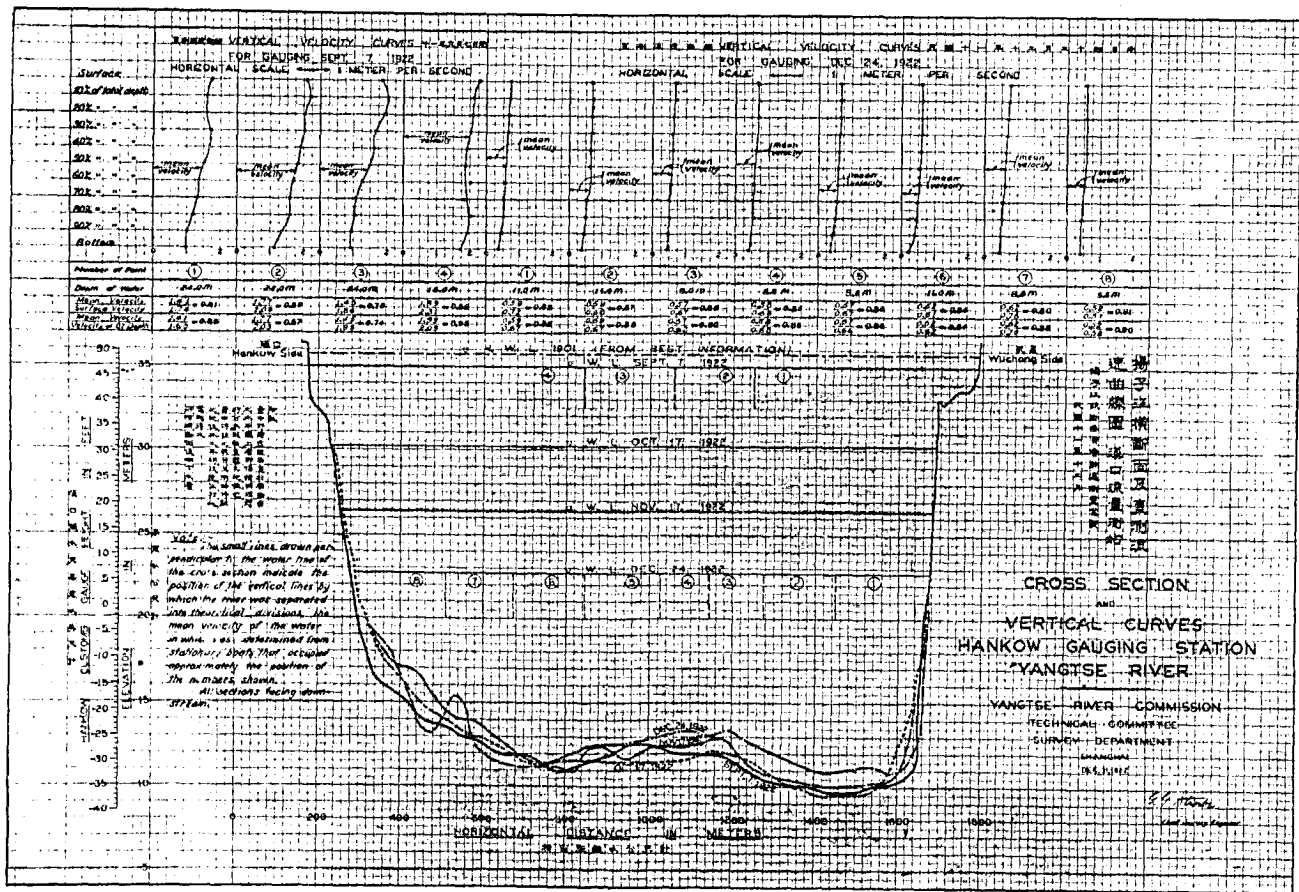
漢江揚子江口淤塞測流站
 由該圖中可見淤塞情形
 及流速之變遷



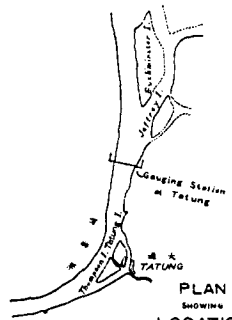
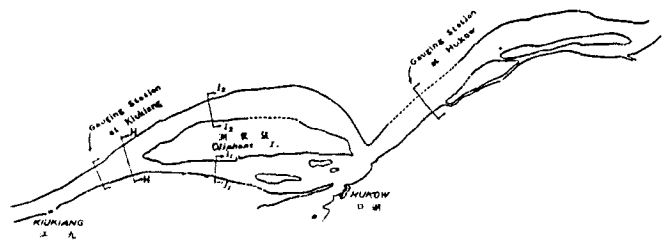








揚子江動向橫斷面平面圖
 九江長江口及大漢河
 測量局測繪



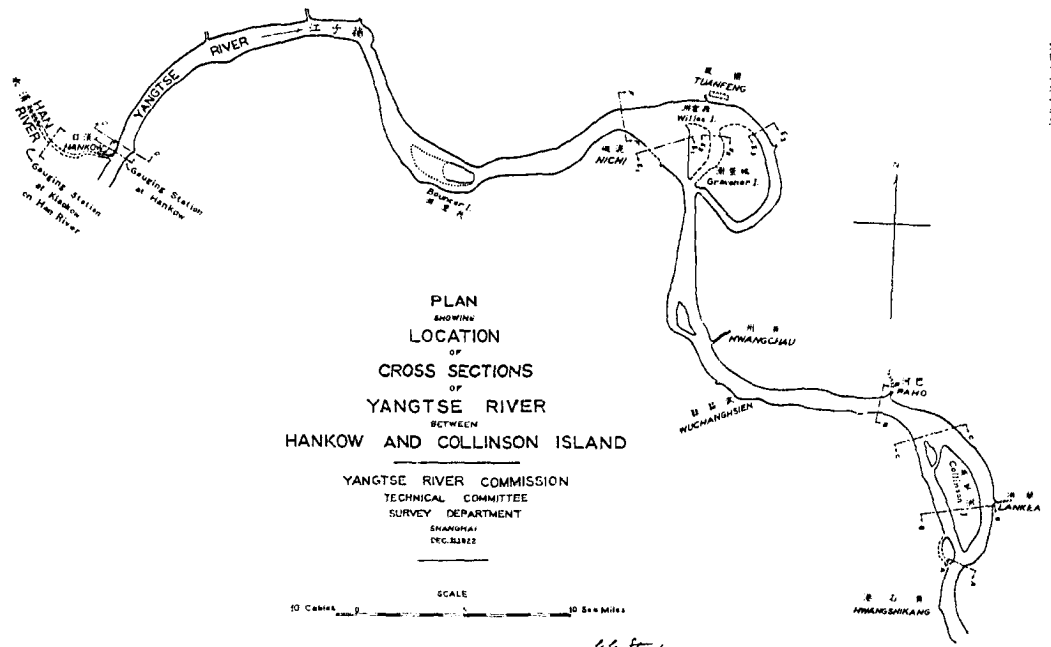
PLAN
 SHOWING
 LOCATION
 OF
 CROSS SECTIONS
 OF
 YANGTZE RIVER
 NEAR
 KIUKIANG, HUKOW AND TATUNG

YANGTZE RIVER COMMISSION
 TECHNICAL COMMITTEE
 SURVEY DEPARTMENT
 SHANGHAI
 DEC. 31, 1922



S.S. Stone
 Chief Survey Engineer

揚子江勘定測断面平面圖
 漢口及鐵夾山附近
 民國十二年五月



PLAN
 SHOWING
 LOCATION
 OF
 CROSS SECTIONS
 OF
 YANGTSE RIVER
 BETWEEN
 HANKOW AND COLLINSON ISLAND

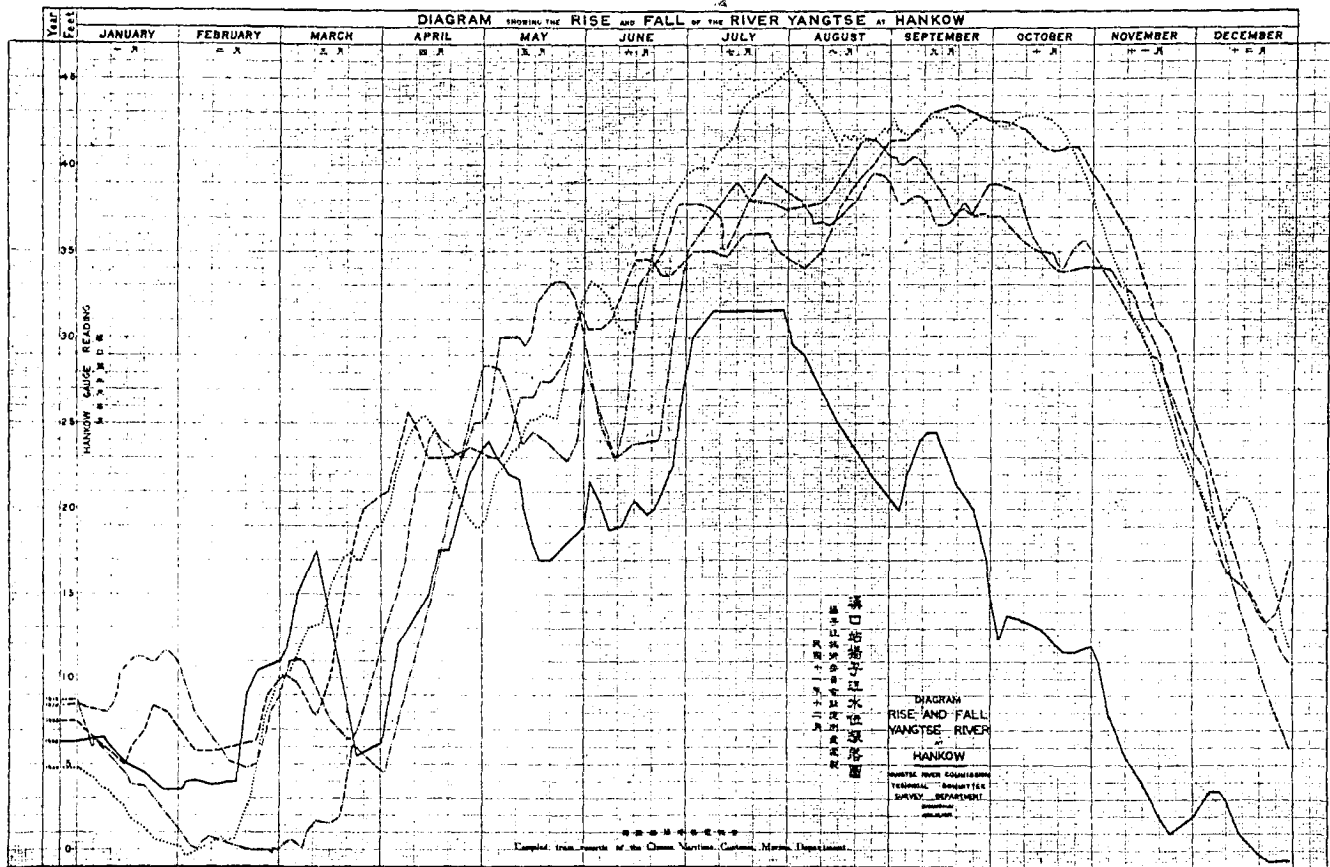
YANGTSE RIVER COMMISSION
 TECHNICAL COMMITTEE
 SURVEY DEPARTMENT
 SHANGHAI
 DEC. 1922

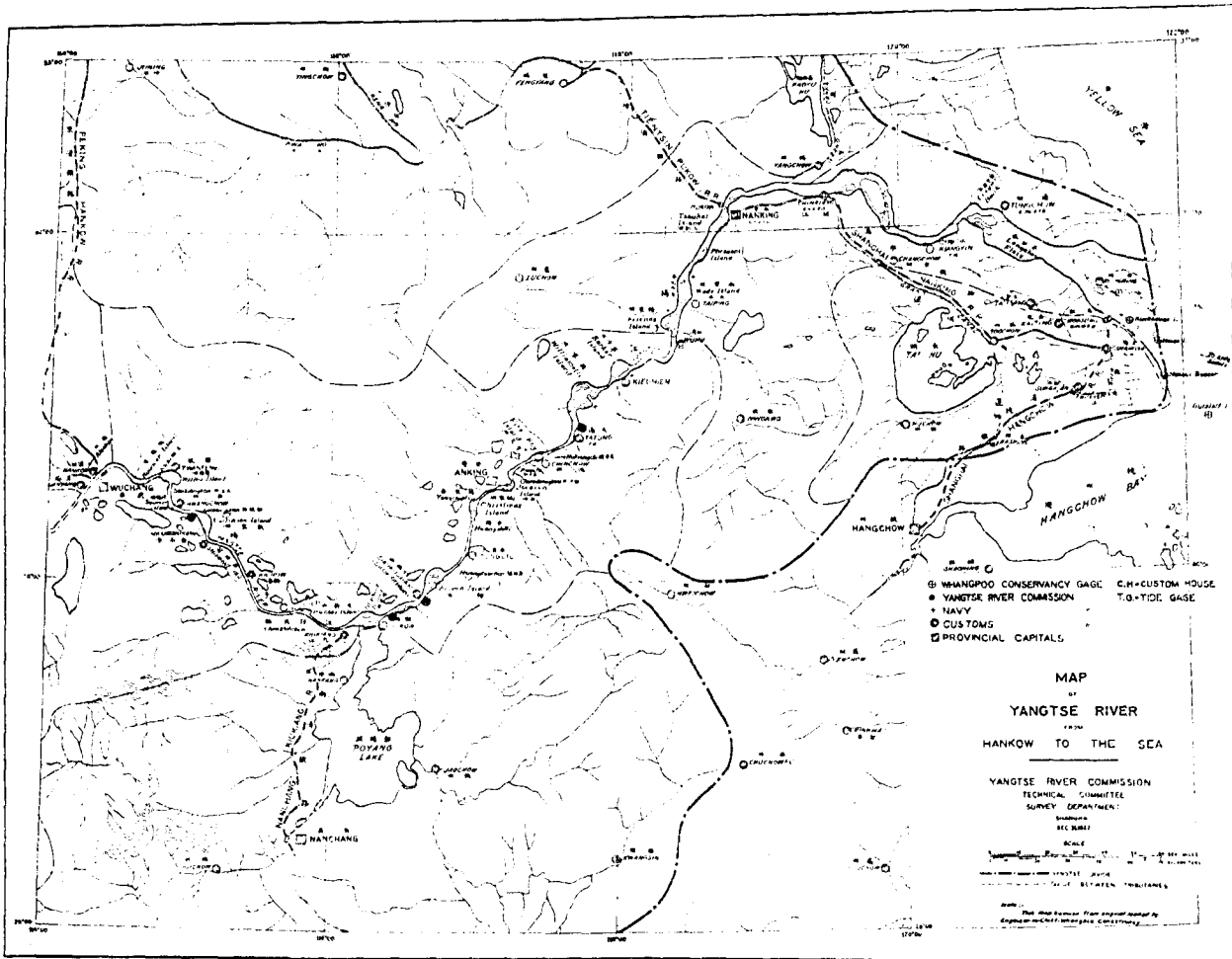
SCALE
 10 Cables 10 Sea Miles

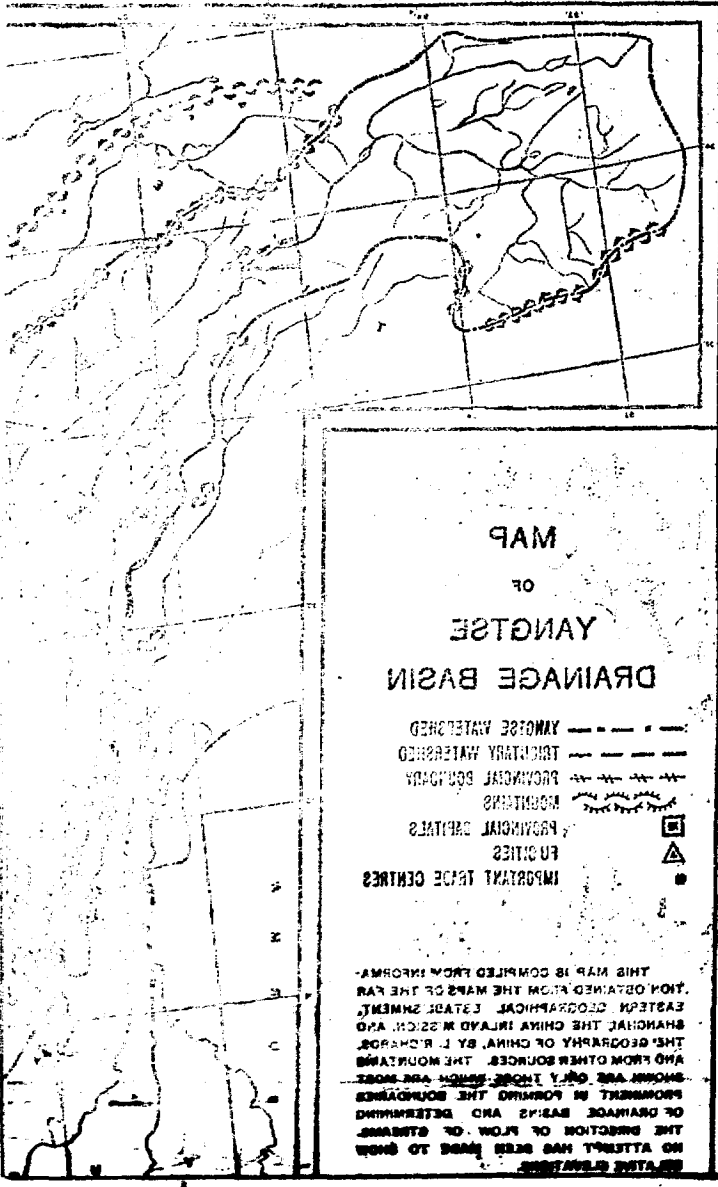
G. S. Stewart
 Chief Survey Engineer



TYPE OF SAMPAN USED FOR DISCHARGE MEASUREMENTS



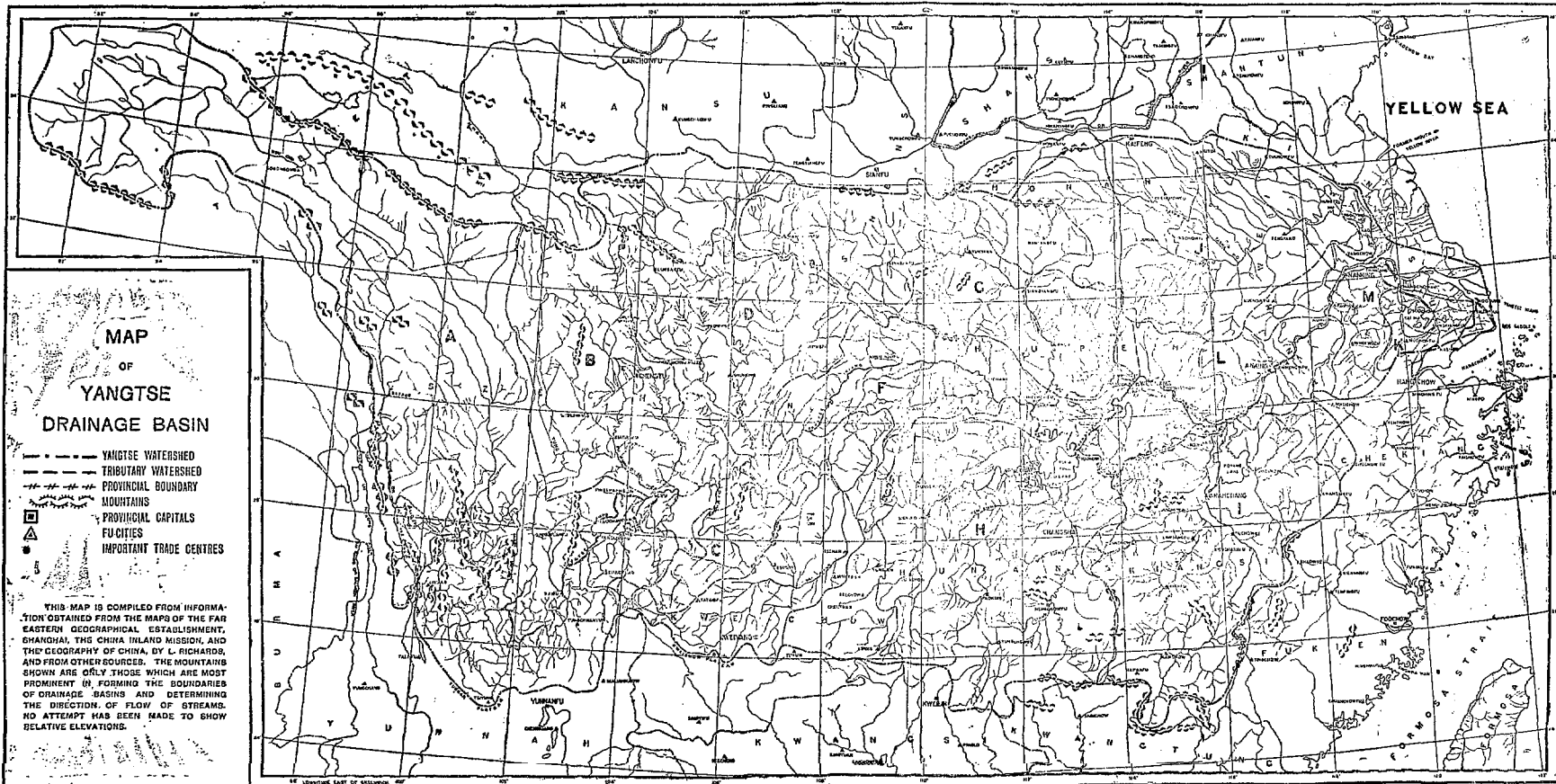




MAP
OF
YANGTSE
DRAINAGE BASIN

- YANGTSE WATERSHED
- TERTIARY WATERSHED
- - - - - PROVINCIAL BOUNDARY
- ~ ~ ~ MOUNTAINS
- PROVINCIAL CAPITALS
- △ CITIES
- IMPORTANT TRADE CENTRES

THIS MAP IS COMPILED FROM INFORMATION OBTAINED FROM THE MAPS OF THE EASTERN GEOGRAPHICAL ESTABLISHMENT, SHANGHAI, THE CHINA INLAND SECTION, AND THE GEOGRAPHY OF CHINA, BY L. ROSSIGNOL, AND FROM OTHER SOURCES. THE MOUNTAINS SHOWN ARE ONLY THOSE WHICH ARE MOST PROMINENT IN FORMING THE BOUNDARIES OF DRAINAGE BASINS AND DETERMINING THE DIRECTION OF FLOW OF STREAMS. NO ATTEMPT HAS BEEN MADE TO SHOW GREAT ELEVATIONS.



MAP OF YANGTSE DRAINAGE BASIN

- - - - - YANGTSE WATERSHED
 - - - - - TRIBUTARY WATERSHED
 - - - - - PROVINCIAL BOUNDARY
 MOUNTAINS
 □ PROVINCIAL CAPITALS
 △ CITIES
 * IMPORTANT TRADE CENTRES

THIS MAP IS COMPILED FROM INFORMATION OBTAINED FROM THE MAPS OF THE FAR EASTERN GEOGRAPHICAL ESTABLISHMENT, SHANGHAI, THE CHINA INLAND MISSION, AND THE GEOGRAPHY OF CHINA, BY L. RICHARDS, AND FROM OTHER SOURCES. THE MOUNTAINS SHOWN ARE ONLY THOSE WHICH ARE MOST PROMINENT IN FORMING THE BOUNDARIES OF DRAINAGE BASINS AND DETERMINING THE DIRECTION OF FLOW OF STREAMS. NO ATTEMPT HAS BEEN MADE TO SHOW RELATIVE ELEVATIONS.

District	Name	Watershed Sq. Kms	Mean of Rainfall Cm. per annum	District	Name	Watershed Sq. Kms.	Mean of Rainfall, Cm. per annum
A.	The Upper Yangtze District, above Sulu	479,974	(Say) 63	L.	The Poyang Lake District	181,282	201.13
B.	Fu Kiang or Min River and the Lu Ho District	133,122		J.	The Hwai River District	174,452	77.01
C.	The Yunan, Szechuen, Kwetchow Districts	69,079	98.53	K.	The Wiangpo River District	20,923	114.78
D.	The Kiating Ho District	163,727		L.	The Middle Yangtze District	61,878	197.42
E.	The Kiangnan Kiang District	85,838		M.	The Lower -do-	55,876	116.52
F.	The Middle Yangtze Districts	55,771					
G.	The Han River District	175,754	123.51				
H.	The Tung Tung Lake District	233,297					
					Total area watershed	1,029,838	108.73
					Mean rainfall over watershed		

Note.—This map has been reproduced by kind permission of the Engineer-in-Chief of the Wiangpo Conservancy Board from his 1917 report on Yangtze Estuary. The information as to watershed area and rainfall is from the same report.

PLATES.

(1) *Diagrams and Maps.*

As stated before in this report, the Hydrographic Department of the Chinese Navy will execute, with its boats and equipment, the survey of the river itself including triangulation, and the Survey Department of the Commission will make the survey of the country above high water. In the Shanghai office of the Commission the threads of all the diversified work which has been outlined in this report (Navy and Commission) will converge. The numerous facts gathered will be systematized, analyzed and studied, and from them will be prepared as rapidly as possible during 1923, diagrams and maps in order to furnish the information desired by the special committee.

GEORGE G. STROEBE,
Chief Survey Engineer.

Shanghai, January, 1923.

(D) *Levels and Slope.*

The precise level party which began its work in August at Hankow will continue working downstream to Wuhu where it will make a connection with railroad bench marks there, which as explained before, have been referenced by the Whangpoo Conservancy to sea level. Simultaneous water level curves referenced to sea level can then be drawn for all gauges (Customs and Commission) from Hankow to the sea. After reaching Wuhu the precise level party will begin work in the estuary at a bench mark of the Whangpoo Conservancy and level upstream to Wuhu.

(E) *Changes in Bed Elevations.*

The work of this year in the matter of studying the silting and scouring of channels at the various places shown in this report will be continued, and special studies will be made of important localities, like Chinkiang, where the filling in the harbor front constitutes a menace to the commerce of the town. (See Plate No. 29).

(F) *Silt.*

No studies of Yangtse River silt have been made during 1922, but this important hydrological work will be begun early in 1923, and determinations will be made particularly in those portions of the river not yet investigated by the Whangpoo Conservancy.

(G) *Rainfall and Run-off.*

Acknowledgment has been made herein to the courtesy of Siccawei Observatory in giving us the full benefit of its records of rainfall data on the Yangtse watershed. This information will be supplemented during 1923 by that secured from the installation of numerous rain gauges at many important points on the drainage area, especially at stations of inland missions where it has been found that the missionary welcomes the opportunity to perform such a service, even though slight, for the country.

An effort will be made to work out the percentage of run-off from the watershed, but this problem is so large that only approximations at best can be derived for the present.

(H) *Topographic Surveys.*

The large topographic party that has been assembled at Hankow will first make a survey of those especially bad portions of the river listed in 1921 by the special committee, Messrs. Palmer, von Heidenstam and Yang Pao Jang. These bad reaches of the river are enumerated below and may easily be located on the map (Plate No. 2.):—(1) Hankow Crossing, (2) Bouncer Island, (3) Willes Island, (4) Squeeze Island, (5) Collinson Island, (6) Hunter Island, (7) Oliphant Island, (8) Pigeon Island, (9) Tungliu Reach, (10) Christmas Island, (11) Jocelyn Island, (12) Fitz Roy Island, (13) Williamette Island, (14) Barker Island, (15) Friends' Island, (16) Wade Island, (17) Chinkiang, (18) Cooper Bank and (19) Tungchow.

The topographic party will also carefully secure the requisite data to make a study of inundation and drainage problems in the various districts traversed by it.

SECTION V—PROGRAM FOR 1923.

The work outlined for 1922 by the Technical Committee has been started, and during the ensuing year will be continued and enlarged and new features of work, as hereinafter outlined, will be undertaken as rapidly as possible.

The problem before the Committee has been simplified measureably by the excellent investigations made in previous years by the Whangpoo Conservancy, not only in the estuary portion of the river (Kiangyin to the sea), but also in the whole region affected by tides (Wuhu to the sea). The first efforts of the Survey will be in those districts not previously investigated by the Whangpoo Conservancy (Hankow to Wuhu), but the results of the work of that Conservancy in the Wuhu-Wboosung district will be studied in connection with the investigations to be undertaken by the Survey Department of the Commission.

(A) *Plant.*

In order to facilitate the work of the Department, the Committee is desirous of securing a motor boat and two good service launches of about 55 foot and 85 foot lengths and it is contemplated to ask for tenders for the construction of such boats early in 1923.

(B) *Gauges.*

It is intended to increase very materially, early in 1923, the number of gauges so that very soon in the new year all the gauges contemplated by the Commission and shown on Plate No. 2, will be in operation. The district shown in which the Commission's gauges will be in operation is the non-tidal portion of the river east of Hankow, viz., the Hankow-Tatung section. The Navy has built, or will build, those gauges indicated by a cross on Plate No. 2. It is not contemplated to take over these Navy gauges by the Commission until later on in the year, since these gauges are far from the Commission's nearest base (Kiukiang), their maintenance would be expensive, and the results of value, being largely vitiated by the tides, will not be in proportion to the expense involved.

In accordance with a recent decision of the Technical Committee all gauge boards will be painted in feet, and in the future all records of gauge heights will be made in feet. Computations and studies, however, will be made in metric units.

(C) *Discharge.*

The Hankow and Kiukiang parties will continue to make complete discharge measurements at Hankow, Kiukiang, Hukow and Tatung. Special measurements will be continued at Willes Island, Collinson Island and Oliphant Island to ascertain the proportion of the total amount of water that flows in each channel at these various islands, and will be extended to other localities as rapidly as practicable.

THE TECHNICAL COMMITTEE OF YANGTSE RIVER COMMISSION, SURVEY DEPARTMENT, SHANGHAI.

Summary of Expenditures From Commencement to December 31, 1922.

	Shanghai Office.	Level Party.	Hydro. Party Hankow.	Hydro. Party Kiating.	Topographic Party.	Chief Deputy.	General Stores.	Sub-total.
1. Salaries and Wages	9,506.64	5,136.65	5,672.36	6,135.14	1,528.80	260.00		28,239.58
2. Travelling Expenses	1,452.39	858.14	398.74	267.55	614.04	13.80		3,604.66
3. General Expenses	1,023.32	768.79	487.23	527.44	48.78	1.87		2,857.43
4. Rent	2,937.88		291.30	80.00				3,309.18
5. Boat Hire:								
House-boats		267.50						267.50
Steam Launches			1,412.10	1,735.50				3,147.60
Sampans			422.30	647.50				1,069.80
6. Coal			1,242.20	2,130.07				3,372.27
7. Furniture and Equipment	3,153.32	42.77	230.12	114.51	289.60			3,830.32
8. Instruments		1,278.50	1,729.06	1,743.10	3,291.56		688.43	8,730.65
9. Survey Appliances		8.90	746.66	913.24	321.80		417.25	2,407.85
10. Stores and Supplies			91.19	4.18	49.50		1,393.97	1,538.84
Total Expenses	\$18,073.55	\$8,361.25	\$12,723.25	\$14,298.23	\$6,144.08	\$275.07	\$2,499.65	\$62,375.68

Sept.	9,	1922,	grade	0.0000155	(Hankow	gauge	reading	46'-4')
Oct.	17,	1922,	,,	0.0000211	,,	,,	,,	31'-1')
Nov.	21,	1922,	,,	0.0000239	,,	,,	,,	17'-2')
Dec.	5,	1922,	,,	0.0000277	,,	,,	,,	10'-6')
Dec.	31,	1922,	,,	0.0000251	,,	,,	,,	6'-1')

(D) *Changes in Bed Elevations.*

One important element in the study of conservancy problems is the knowledge of the silting and scouring phenomena of the river. On a river as large as the Yangtse, this work could run into colossal proportions. After consultation with the river inspectors at Hankow and Kiukiang, who have an intimate knowledge of river conditions in those localities, certain sites shown on Plate Nos. 5 and 6 were selected and data were accumulated which are shown graphically on Plates Nos. 19, 20, 21, 22, 23, 24, 25, 26 and 27. It is particularly interesting to compare on Plate No. 8 the bed of the Yangtse as surveyed by the Whangpoo Conservancy in 1919 with that shown on the same plate by the surveys of this Department made this year, and notice the changes.

(E) *Rainfall.*

A beginning of the study of the important phenomena of the extent of rainfall in the Yangtse basin has been made. Plate No. 28. represents the results of studies made to date from the records of Siccawei Observatory. This plate does not represent by any means all of the existing knowledge on this subject, and when further known facts are correlated and studied these isohyets may be considerably modified.

SECTION IV.—EXPENDITURES BY MONTHS.

The expenditures of the Department made from the commencement of work to date are shown in the tabulation on the following page. The item, "General expenses" includes such particulars as (a) heat and light (b) protection, guards, etc., (c) works and permanent structures, (d) medical treatment, (e) postage and cables and (f) miscellaneous. The item, "general stores" refers to purchases made for the property division of the Shanghai office, but intended to be sent later on, in compliance with requisitions, to the various entities of the Department.

(C) *Levels and Slope.*(a) *Precise Levels.*

By the close of the year the precise level party had reached Wei-Yuan-Kow (154 kms. from Hankow), and had checked its forward and backward runs within 16 millimeters in that distance, or 1.3 mm. $\sqrt{\text{(one way) distance in kms.}}$ The error of tolerance is 5 mm. $\sqrt{\text{(one way) distance in kilometers.}}$ New German invar metal leveling rods are used by the precise level party. The check level party has checked its own work within 75 mm. on its forward and backward runs, or 6 mm. $\sqrt{\text{(one way) distance in kilometers,}}$ which is well within the limits of tolerance for check leveling.

Plate No. 17 shows the character of the work done by the precise level party.

The cost of the precise leveling per kilometer of completed work (measured one way) for October was \$26.79 per kilometer, for November \$28.47 per kilometer, and for December \$32.43. The country traversed is in some cases very rough; there are no railroads nor highways to aid the level party; and the presence of the check levelers has increased the size and expense of the party measurably—all these are contributing influences which make the cost of this work slightly high, but the work, unlike ordinary leveling, is of a permanent character and the results will be of a permanent value.

(b) *Simultaneous Water Levels.*

From the data secured by the precise level party and from the gauge readings, the curves of Plate No. 18, showing simultaneous water levels at various places on the Yangtse, have been made. From these data the slope of the river can be readily computed. The fall of the river averages approximately 2 centimeters per kilometer or roughly one inch per mile. Specifically on the days listed below, the average grade of the river for 150 kilometers east of Hankow was:—

(See next page).

Footnote.

* The remarkable influence which Poyang Lake has in stabilizing the flow of the Yangtse is evident from even a cursory inspection of the data given in the table. According to the Kiukiang and Hukow rating curve, 30350 cubic meters of water per second on October 15, passed Kiukiang, just above the outlet of Poyang Lake, and at the same time 43125 cubic meters per second passed Hukow just below the outlet of this lake. The difference, 12775 cubic meters, or nearly 30% of the water in the river, represents approximately the amount that must have come from Poyang Lake. That a large amount of water on this date was entering the Yangtse at Hukow was evident to the eye, for the muddy water of the river and the clearer water from the lake did not mingle completely in the river for some miles below the confluence. During the rise of the river, evidently immense quantities of water leave the river and enter this big lake at Hukow, and conversely during the fall of the river immense quantities of water (which the Survey has fortunately been able to measure this year and has complete data concerning) leave the river. The effects of these two processes are both very beneficial, viz., (1) reduction of floods in the lower Yangtse during flood periods and (2) maintenance of greater volumes of flow during recession periods.

River.	Station.	Date.	Discharge cu. meters.	Gauge Height.	Remarks.
Yangtse	Hankow	Oct. 17	26000	30'-11"	Customs' gauge
"	"	" 21	21700	27'-7"	" "
"	"	Nov. 4	19300	24'-4"	" "
"	"	" 9	18800	21'-10"	" "
"	"	" 17	16300	18'-5"	" "
"	"	" 24	14100	15'-3"	" "
"	"	Dec. 3	10200	11'-6½"	" "
"	"	" 9	9100	9'-4"	" "
"	"	" 24	7300	6'-4"	" "
"	*Kiukiang	Aug. 28	63700	42'-8"	" "
"	"	Sept. 8	49100	43'-2"	" "
"	"	" 24	49200	40'-9"	" "
"	"	" 27	48900	40'-0"	" "
"	"	Oct. 17	30600	33'-1"	" "
"	"	" 26	23500	29'-0"	" "
"	"	Nov. 3	22200	26'-3"	" "
"	"	" 21	18900	16'-6"	" "
"	"	" 23	11800	12'-10"	" "
"	"	Dec. 6	9600	9'-10"	" "
"	"	" 21	6950	6'-4"	" "
"	"	" 28	6900	5'-11"	" "
"	*Hukow	Sept. 3	54730	15.02 m.	Y.R.C.
"	"	" 16	54690	14.87 m.	" "
"	"	Oct. 15	43400	12.36 m.	" "
"	"	" 30	34800	10.51 m.	" "
"	"	Nov. 18	19700	7.23 m.	" "
"	"	" 29	14000	5.43 m.	" "
"	"	Dec. 10	8060	3.58 m.	" "
"	"	" 27	9200	3.48 m.	" "
"	Tatung	Oct. 5	56900	12.10 m.	" "
"	"	" 6	54600	12.05 m.	" "
"	"	" 7	52900	11.96 m.	" "
"	"	Nov. 12	26700	7.94 m.	" "
"	"	" 13	25300	7.76 m.	" "
"	"	Dec. 10	11300	4.58 m.	" "
"	"	" 11	10800	4.50 m.	" "
Han	Kiaokow	Sept. 16	800	15.82 m.	" "
"	"	" 25	750	14.91 m.	" "
"	"	Oct. 2	1100	13.28 m.	" "
"	"	" 12	530	12.54 m.	" "
"	"	" 18	500	11.60 m.	" "
"	"	" 26	410	10.60 m.	" "
"	"	Nov. 6	330	9.41 m.	" "
"	"	" 16	280	8.00 m.	" "
"	"	" 23	270	7.17 m.	" "
"	"	Dec. 2	215	5.99 m.	" "
"	"	" 10	210	5.18 m.	" "
"	"	" 26	185	4.43 m.	" "

* See footnote in the next page.

Station.	Date.	Gauge Reading	Observed maximum filament values in m. per sec.	Calculated values of average velocity of whole discharge in meters per second.
Hankow	Sept. 7. '22	46'-7"	1.99	1.71
"	Dec. 24. '22	6'-4"	0.62	0.57
Kiukiang	Aug. 28. '22	42'-8"	2.32	1.74
"	Jan. 4. '23	4'-7"	0.88	0.66
Hukow	Oct. 14. '22	12.47 m.	1.51	1.33
"	Dec. 18. '22	3.62 m.	0.69	0.54
Tatung	Oct. 4. '22	12.17 m.	1.54	1.26
"	Dec. 9. '22	4.62 m.	0.66	0.52

4. Curves of Equal Velocities.

Plate No. 12 shows graphically the variation of velocity in the cross section at various gauging stations on the dates specified. The lines of equal velocity are drawn in the usual conventional manner, analogous to contour lines.

e) Water Level Curves and Rating Curves at Gauging Stations.

Plates Nos. 13, 14, 15 and 16 show the water level curves and the rating curves of discharge, mean velocity and mean area at the various gauging stations enumerated hereinbefore. The rating curves are of course only average curves drawn through the plotted positions of the values of all determinations made of discharge, mean velocity and mean area.

No rating curve is shown for the Han at Kiaokow near Hankow since this river is influenced so greatly at Hankow by the stage of water in the Yangtse into which at Hankow the Han debouches. The variations in level of the Yangtse at Hankow are so great that a meaningful rating curve for this river at this place can not be drawn.

From the various rating curves made of the Yangtse at the different gauging stations the discharge of the river can easily be found in cubic feet per second for any gauge height and for any day from the commencement of operations to the end of the year.

The table presented below gives in handy form a summary of all discharge measurements made from the beginning of work in August to the end of the year.

d) Data Tabulated.

Summary of Discharge Measurement Work of Survey Department for 1922.

River.	Station.	Date.	Discharge cu. meters.	Gauge Height.	Remarks.
Yangtse	Hankow	Sept. 7	55500	46'-7"	Customs' gauge
"	"	" 9	55900	46'-4"	" "
"	"	" 22	41500	42'-4"	" "
"	"	Oct. 3	33700	37'-5"	" "
"	"	" 10	31800	34'-0"	" "

a) *Cross Sections at Gauging Stations.*

Plate Nos. 5 and 6 show the location of cross sections of the Yangtse and Han Rivers that have been made at gauging sites. Plate Nos. 7, 8, 9, 10 and 11, show the cross sections that have been taken of these rivers at the various gauging stations on the dates shown on the drawings. These gauge stations are located at Hankow, Kiukiang, Hukow and Tatung on the Yangtse, and Kiaokow (Hankow waterworks) on the Han. The cross sections show, on the date of gauging, the elevation of the water surface and the profile of the bed of the river, incidentally giving by comparison the important information as to the change in river bed resulting from silting and scouring.

b) *Velocity in the Cross Section.*

1. *Vertical Velocity Curves.*

For convenience, information as to velocity has been placed on the same plates showing the cross sections of the river. Current meter determinations of velocity were made in every instance at the surface and at the various tenths of the depth to the bottom. From the plotted values of these velocities the vertical velocity curves shown have been drawn. The value and location (in percent of depth) of the mean velocity are shown in every instance. Only one set of vertical velocity curves for high water and one for low water for each gauging station are given, but the results are typical of the entire work.

2. *Mean Velocities.*

Beneath the graphs of vertical velocity curves, there are shown in a table the important ratios of (a) mean velocity to surface velocity, (b) mean velocity to velocity at 0.2 depth and (c) mean velocity to bottom velocity.

The following table shows the result of studies made of the vertical velocity curves that are represented by graphs on the plates described herein. The expression V_m/V_s represents the ratio of mean velocity to surface velocity and V_m/V_a represents the ratio between mean velocity and the average velocity at 0.2 and 0.8 depth. This last value is almost unity as is usually the case in all streams of water.

Station.	River.	No. of Curves.	$\frac{V_m}{V_s}$	$\frac{V_m}{V_a}$	Percentage of depth V_m occurs.
Hankow	Yangtse	Aver. of 4 curves	0.823	0.926	53.3
"	"	" " 8 "	0.851	1.051	56.0
"	Han	" " 4 "	0.933	0.950	56.2
"	"	" " 5 "	0.925	0.983	52.0
Kiukiang	Yangtse	" " 5 "	0.765	0.982	57.4
"	"	" " 8 "	0.846	0.993	57.4
Hukow	"	" " 4 "	0.850	1.016	58.0
"	"	" " 8 "	0.845	0.980	57.8
Tatung	"	" " 4 "	0.797	0.997	50.5
"	"	" " 8 "	0.874	0.992	55.0

3. *Maximum Filament Velocities and Average Velocities.*

The following table gives a list of maximum filament velocities that have been measured and a list of calculated average velocities in the whole river on certain specified dates.

SECTION III.—HYDROLOGICAL DATA ACCUMULATED DURING 1922.

(A) *Gauges.*

Under the question of gauges will be considered, in order, the *old gauges* of the Chinese Maritime Customs, and the new gauges of the Navy and of the Commission. These gauges are all shown as to location on Plate No. 2.

a) *Customs' Gauges.*

The Yangtse River Commission is fortunate in its inception to have available for its use and study records of river gauge heights made through the foresight of an organization that has been in existence for many years, the Chinese Maritime Customs. This institution has had gauges established for many years at Chinkiang, Nanking, Wuhu, Kiukiang, Hankow, Yochow, Changsha, Ichang, and Chungking. The Survey Department acknowledges its indebtedness to the Customs for complete data of gauge heights of the river at all these places, tabulated for every day since 1900. Graphs have been made based on these data, and these graphs are available in the archives of the Department for study. A sample, illustrative of this work, is shown on plate No. 3. where, for clarity, curves for only the year 1900, 1905, 1910, 1915, 1920 have been drawn.

b) *New Gauges.*

New gauges have been established by the Commission at Hukow, Orphan Island and Tatung, and readings of the old Customs' gauges at Auchenghsien, Shih-Hwei-Yao and Kichow have been made. Some of the results of the readings of these gauges are shown in connection with the water level curves drawn on Plate Nos. 13, 14, 15 and 16, and the results of other readings are shown, adjusted to the zero of the Hankow gauge, on Plate No. 18.

c) *Location of Gauges.*

The location of all gauges, both those already established and those to be established, is shown on Plate No. 2. The Yangtse River Commission has established, or will establish, all new gauges between Hankow and Tatung; the Hydrographic Department of the Navy similarly has built, or will build, the gauges between Tatung and Nanking.

(B) *Discharge.*

It was particularly desired by the Technical Committee in July, immediately after the organization of the Department, to measure the discharge of the Yangtse at once while the river was in peak flood in order to have a record of extreme flood flows. Due to the friendly co-operation of the Whangpoo Conservancy Board and the Marine Department of the Maritime Customs the necessary equipment was obtained at once locally to perform this task, and peak flood determinations of the discharge of the river were secured.

Plate No. 4 shows the type of sampan used to make discharge measurements.

In the determination of discharge, the two important elements to be ascertained are area and velocity. These items will be considered in detail.

Name of Members on payroll during year.		Date of 1st appointment.	Date of Resignation.	Rank held December 31st, 1922.
<i>PRECISE LEVEL PARTY.</i>				
K. Y. Li	李 謙 若	5/8/22		Act. Chief of Party
S. F. Wan	萬 樹 芳	1/8/22		S. E., 2nd grade
O. C. Shen	沈 景 初	12/8/22		Cadet, 1st grade
T. J. Koo	顧 宗 杰	7/8/22		„ 2nd „
Li Yi-kung	李 益 恭	10/8/22		Deputy
<i>TOPOGRAPHIC PARTY.</i>				
Woo Nan Kai	吳 南 凱	8/11/22		Act. Chief of Party
T. Y. Yang	楊 廷 玉	23/11/22	1/12/22	S. E., 2nd grade
P. K. Lin	林 秉 珪	30/12/22		S. E., 2nd grade
Tseng Hung	曾 鴻	26/12/22		A. S. E., 1st grade
Lín Ku	林 固	24/11/22		„ „ „
J. L. Wang	黃 瑞 麟	11/12/22		Cadet, 1st grade
S. Y. Dunn	滕 心 淵	5/12/22		„ „ „
W. Y. Yao	姚 文 尉	20/12/22		„ „ „
T. D. Chang	章 天 鐸	1/12/22		„ 2nd „
C. C. Chang	張 朝 銓	23/12/22		„ „ „
C. Loh	陸 超	11/12/22		„ „ „
Feng Tai	馮 旦	1/12/22		„ „ „
C. M. Ku	顧 家 模	15/12/22		„ „ „
D. C. Woo	吳 大 章	20/10/22		Deputy
C. C. Chai	蔡 金 鑫	23/12/22		Recorder
<i>CHIEF DEPUTY.</i>				
S. I. Yang	楊 士 廉	21/11/22		Chief Deputy

CHINESE STAFF.

Name of Members on payroll during year.		Date of 1st appointment.	Date of Resignation.	Rank held December 31st, 1922.
<i>SHANGHAI OFFICE.</i>				
Yang Chen Z	楊景時	13/7/22		Chief Clerk
T. C. Koo	顧紫荃	13/7/22		Typist
P. H. Miao	繆寶鴻	25/7/22		Property Clerk
T. Y. Chow	周正賢	19/7/22		Buying Clerk
Koo Ting	顧鼎	1/8/22		Cadet, 1st grade
S. C. Chu	朱士俊	7/8/22		" " "
T. K. Scheng	沈仲康	16/8/22		Tracer
<i>KIUKIANG HYDROMETRIC PARTY.</i>				
S. H. Liu	劉世華	22/7/22		Act. Chief of Party
L. G. Chao	趙履祺	22/7/22		A. S. E., 2nd grade
S. S. Chang	章錫毅	29/7/22		Cadet, 1st grade
P. C. Shen	沈寶璋	4/8/22		" " "
W. S. Yang	楊蔚臣	5/8/22		Deputy
<i>HANKOW HYDROMETRIC PARTY.</i>				
A. Y. Huang	黃露如	8/8/22	19/8/22	Act. Chief of Party
T. F. Chu Yusan	邱鼎汾	1/9/22		" " " "
Y. L. Lin	林友龍	13/7/22		A. S. E., 1st grade
K. F. Wang	王國藩	1/8/22		" 2nd "
T. E. Chen	陳湛恩	19/8/22		Cadet, 1st grade
C. M. Yuan	阮仲明	8/8/22	15/9/22	Deputy
Hsisan C. Liu	劉錫三	1/12/22		Deputy

obtainable. This procedure will enable the Department to obtain quickly information concerning river slopes in the important section of the river mentioned, and will also give level bench marks to the topographic party which is operating in the Hankow-Kiukiang district.

(B) *Schedule of Salaries for the Technical Staff.*

At the fourth meeting of the Technical Committee held in Peking October 6th, 1922, the following schedule of salaries for its technical staff was adopted:—

<i>Grade.</i>	<i>Initial Salary.</i>
Chief of Party	\$300.00
Engineer Surveyor, 1st grade	250.00
" " 2nd " 	200.00
Asst. Engineer Surveyor, 1st grade	160.00
" " " 2nd " 	120.00
Cadet Surveyor, 1st grade	90.00
" " 2nd " 	60.00
Draftsman, 1st grade	90.00
" 2nd " 	60.00

(C) *List of Personnel.*

The following tabulation presents in handy form a list of the men of the Survey Department showing date of appointment, date of resignation, and rank held December 31, 1922.

FOREIGN STAFF.

Name of Members on payroll during year.		Date of 1st appointment.	Date of Resignation.	Rank held December 31st, 1922.
G. G. Stroebe	史 篤 培	1/7/22		Chief Survey Engineer
Magnus Olausson		22/8/22		Marine Officer

SECTION I.—GENERAL MAPS.

In order to have a general idea of the location of the Yangtse with reference to the rest of China, Plate No. 1, entitled "Map of the Yangtse Drainage Basin" is presented. The portion of this map from Hankow to the sea has been enlarged, and somewhat amplified, and is presented herewith as Plate No. 2.

SECTION II.—ORGANIZATION.

(A) *Original Program of Work for Year 1922.*

In the minutes of the third meeting of the Technical Committee held in Shanghai July 18, 1922, appears the following: "The Survey Department will, for the present, limit its work to the running of a line of accurate levels from Kiukiang to Hankow, and the collection of such hydrological data at controlling points along the river as may be designated by the Committee. A topographic survey of the river will be undertaken by the Survey Department later on."

In accordance with this original outline of work the Department organized (a) two hydrometric parties, one operating from Hankow as a base and one from Kiukiang, and (b) one precise level party to begin its leveling at Hankow. The first hydrometric party left Shanghai on August 7, 1922 for Kiukiang; the second hydrometric party left on August 18, 1922 for Hankow; and the precise level party departed on August 11, 1922 also for Hankow to begin work there. In accordance with the decision of the Committee, a topographic party was organized toward the end of the year. This party left Shanghai December 23, 1922, and early in January 1923 will bring operations in the vicinity of Hankow, working downstream from that town.

The Committee decided early in its deliberations that the primary levels along the Yangtse should be precise. The government to date has done very little precise leveling, and the opportunity to perform high class leveling along the Yangtse appealed to the Committee as one of scientific practical service. The wisdom of the Committee's decision is evident from the tabulation hereinafter given, wherein it is seen that the fall of the Yangtse for 150 kilometers east of Hankow is about 2 centimeters per kilometer. This slope, already flat at Hankow, will diminish still further downstream, and the employment of precise levels in dealing with such flat slopes is abundantly warranted.

It was, at first, thought best to have the work of leveling begin in the estuary at bench marks of the Whangpoo Conservancy, which are referred to that Conservancy's datum, "Woosung horizontal zero," but since the most difficult reaches of the river—navigationally—are between Kiukiang and Hankow, and since the topographic party is to operate first in this same district, it was finally decided best to begin work at Hankow and progress downstream to Wulu, where good (but not precise) bench marks of a railroad survey, which have been referenced by the Whangpoo Conservancy to Woosung horizontal zero, are

REPORT
OF THE
SURVEY DEPARTMENT

General Balance.

Cash on Fixed Deposit plus accrued interest	70,906.84	
„ at Bankers on Current Account	18,240.18	
„ in hands of Secretary	118.94	
„ at Bank and in hand at Shanghai.....	7,561.85	
Shanghai Advances Suspense	3,554.84	
		100,382.65
		212,513.00

We have examined the above account and compared it with the Books Accounts and Vouchers of the Technical Committee of the Yangtse River Commission and certify it to be correct and in accordance therewith.

(Signed). THOMSON BROTHERS & STEDMAN,
Chartered Accountants Auditors.

THE TECHNICAL COMMITTEE OF THE YANGTSE RIVER COMMISSION.

STATEMENT OF INCOME AND EXPENDITURE

FROM 19TH MAY, 1922 TO 31ST DECEMBER, 1922.

INCOME.

To Grants Received from		
Inspectorate General of Customs	211,200.00	
Interest on Fixed Deposit and Current Accounts	1,313.00	
		212,513.00

EXPENDITURES.

Administrative Department.

Peking Head Office.

Initial Expenditure and Formation Expenditure	2,794.70	
Consulting Engineer's Fees	7,756.02	
Retaining Fees	19,200.00	
Salaries and Wages	7,856.83	
Travelling Expenses	9,219.02	
Rent	793.56	
Furniture and Supplies	344.85	
Stationery and Printing	737.59	
Postage and Telegrams	74.88	
Heat and Light	128.60	
General Expenses	848.62	
		49,754.67

Survey Department.

Initial Expenditure	3,196.99	
Salaries and Wages	28,243.58	
Travelling Expenses	3,509.15	
Instruments	12,210.06	
Rents and Taxes	3,789.37	
Hire of Launches	7,658.52	
Printing and Stationery	1,153.22	
Postage and Telegrams	299.58	
Heat and Light	222.60	
General Expenses	2,092.61	
		62,375.69

FINANCIAL STATEMENT.

"The Committee avails itself of this opportunity to thank the Ministry of Navy for the friendly feeling expressed by its representative and the assurance of co-operation in the collection of such hydrographic data for the Committee as may be best obtained by navigators. The Committee agrees with the Ministry as to the necessity of coming to some understanding in order to avoid the duplication of work, and has already recorded its views on the subject at a meeting held at Shanghai on July 18th 1922, which views have been unofficially communicated to your Hydrographic Department by our member, Mr. T. J. Eldridge. For the purpose of record, the Committee now officially transmits to you a copy of that statement so that your newly organized Hydrographic Department in making its programme may be guided thereby :

"The Committee feels certain that your representative on the Yangtse River Commission has undoubtedly informed you about the nature of this Committee and the work which it has been entrusted to undertake. The survey of the Yangtse River is a big task, and on account of the limitation of funds at its disposal, the Committee welcomes your co-operation in the gathering of such data which can be best obtained with the assistance of your ships. The work which your staff will undertake for the Committee is technical in nature, and the Committee which is composed of technical men will be glad to place its services at your disposal for consultation whenever needed. The Committee understands that your department has secured the temporary assistance of Mr. Mills from the Marine Department of the Maritime Customs in training your staff and in arranging with the Committee the division of work between the Hydrographic Department and the Survey Department of the Committee. The Committee has designated Mr. G. G. Stroebe, its Chief Survey Engineer, as its representative for consultation whenever your department should need any assistance or should have any doubt as to the kind of data which is needed.

"Herewith is enclosed a copy of Mr. Palmer's report for your information."
I request you to transmit the above letter to the Ministry of the Navy.

CHEN SHIH LI

Chairman of the Technical Committee.

TO THE YANGTSE RIVER COMMISSION.

Peking, October 9th, 1922.

Sirs:—

Your instruction to the Committee states:

"The Commission is in receipt of a despatch from the Ministry of the Interior forwarding copy of a statement regarding the Hydrological survey prepared by the Naval Hydrological Survey Bureau and sent through the Ministry of the Navy. The despatch states that according to the scheme adopted by the Commission, certain part of the river surveys should be done by the Ministry of the Navy, which had intended to establish a survey office to undertake the work, as was announced by the Inspector General of Customs. In the Commission's letter to the Ministry of the Interior it was stated that the Technical Committee of the Yangtse River Commission had decided to undertake the leveling and hydrometric surveys itself and to leave the triangulation survey to the Ministry of Navy. The Ministry of the Interior wants to know whether this arrangement is in accord with the original understanding with the Ministry of Navy. It has therefore asked the Ministry of Navy to instruct the Naval Hydrological Survey Bureau to send delegates to the Technical Committee for a thorough discussion of the scope of surveys so that unnecessary duplication of work might be avoided. The Commission therefore instructs your Committee to have a satisfactory discussion with the aforementioned delegates and to report to the Commission the result of the discussion."

Subsequent to your instruction, Mr. Hsu, the Chief of the Naval Survey Bureau, personally called upon this Committee and informed us of the desire of his Bureau to cooperate in carrying out the surveys of the Yangtse region and to avoid duplication of work. A meeting was held on October 6th and it was decided to send the following letter by the Chairman to the Ministry of Navy:—

"I have the honor to thank you most sincerely for sending Captain Hsu to confer with me on the matter of the Yangtse River the other day, to assure me of the willingness of the Hydrographic Department of the Navy of which he is Director to place itself at the disposal of the Committee in collecting whatever hydrographic data may be needed by the Committee, and to express your desire to make such arrangement as to avoid the duplication of work between your organization and the Survey Department of the Committee. I have placed the foregoing views of yours as communicated to me by Captain Hsu before my colleagues at a meeting held on October 6th, and have been asked by the meeting to convey to you the following answer:

Peking, August 30th, 1922.

Sirs :—

In reference to our report dated June 29th and your instruction of July 5th, we beg to inform you that the inspection party has completed its work and its report has been submitted to the Committee for consideration. All the members held the view that the importance of the survey should be viewed from several points, namely, navigation, irrigation and flood prevention. In consideration of this, it was decided to establish a survey headquarters at Shanghai, which, headed by Mr. Stroebe, shall be under control of the Committee.

The staff members to be appointed shall be Assistant Chief Survey Engineer, Survey Engineers, Assistant Survey Engineers, Cadet Engineers, etc. They are to be selected and appointed from among the technical men. Recently we received from the Chief Survey Engineer a report stating that two survey parties would be first formed for the topographic survey between Hankow and Kiangying and that hydrometric stations would be established at Hankow, Kiukiang, Hukou and Tatung. The scope of work will be gradually extended, taking circumstances into consideration. These recommendations have been approved by this Committee, and your Commission is requested to put them on record and also to inform the different provinces along the River of same and at the same time request the local authorities to give protection to our parties and stations. We will send you detailed reports of appointments later.

CHEN SHIH LI

Chairman of the Committee.

TO THE YANGTSE RIVER COMMISSION.

(2)

Peking, June 29th, 1922.

Sirs:—

The success of the plan for the improvement of the Yangtse River must depend a good deal upon the results of the survey. The American engineer, Mr. Stroebe, arrived in China on June 12th. A conference with him was held by the members of the Committee and it was considered necessary to send delegates to the different centers to make arrangements for the survey of the river. The members recommended Mr. Shoung and Mr. H. van der Veen to make this preliminary investigation in company with Mr. Stroebe in the Yangtse region between Hankow and Shanghai to locate the survey stations. The trip would take half a month. The Commission is requested to ask the Ministry of the Interior to instruct Messrs. Shoung and H. van der Veen to make the trip immediately.

With regard to the contract for the engagement of Mr. Stroebe, I beg to inform you that it is still under discussion, and will report to you later.

CHEN SHIH LI

Chairman of the Committee.

TO THE YANGTSE RIVER COMMISSION.

(3)

Peking, August 1st, 1922.

Sirs:—

In reference to our petition dated May 30th, we beg to inform you that Mr. Stroebe arrived in Peking on June 12th and we found him to be an engineer of experience. Mr. Stroebe has been in the Philippine Government's service for over ten years, and during that period he has made a good record. He is well equipped to fill the position of the Chief Survey Engineer. A letter of appointment was drafted, approved and sent to Mr. Stroebe and it was accepted on July 1st. We have the honor to report this matter for your file and also for transmission to the Ministry of Foreign Affairs. Two copies each of the said agreement in both English and Chinese are herewith attached.

CHEN SHIH LI

Chairman of the Committee.

TO THE YANGTSE RIVER COMMISSION.

PROGRESS REPORTS TO THE YANGTSE RIVER COMMISSION.

(1)

Peking, May 30th, 1922.

Sirs:—

On March 11th, I was appointed Chairman of the Technical Committee, and Messrs. Pang Pao Ling, Chow Zian Yien, Shen Ping Huang, H. van der Veen, H. von Heidenstam and T. J. Eldridge were appointed members. Subsequently we received a copy of the regulations for organization of the Committee, in accordance with which the Committee was formed. Beginning May 16th, the Committee held a session of meetings in the Ministry of the Interior. In addition to the persons aforementioned Mr. Shoung Ti Chung, Secretary of the Committee, was present, making a total of eight members in attendance. I presided over the meetings.

At the first meeting the Secretary reported the circumstances in which the funds for the Committee were secured and referred to the date when the accounts had been opened. Then the members decided to carry out the schedule of works in accordance with the budget presented on March 4th. The Committee decided to establish two offices, the head office in Peking and the branch office in Shanghai, and five rules of procedure were adopted for meetings. In view of the fact that the surveys to be carried out by the Committee will be an important task and involve much work it was considered necessary to engage a chief engineer. After much consideration it was unanimously decided to engage Mr. G. G. Stroebe, a man of high technical standing and much experience, to be Chief Survey Engineer. As a matter of precaution it was decided to have a conference with him upon his arrival in China before his appointment. In the event of his training and experience satisfying the Committee, he would be officially appointed for the period of one year and asked to proceed immediately with the organization of survey parties to be despatched to the field. As to the organization of parties and the division of areas to be surveyed, it was decided to leave them to the discretion of the Chief Survey Engineer. A report in this connection will be submitted to your Commission in due course of time.

CHEN SHIH LI

Chairman of the Committee.

TO THE YANGTSE RIVER COMMISSION.

Instruction No. 9 from the Yangtse River Commission to the Technical Committee regarding Mr. Palmer.

Peking, March 22nd, 1923.

Sirs:—

In reference to the engagement of Mr. Palmer to investigate the Yangtse River, he was temporarily engaged by the Customs Administration together with the Ministry of the Interior upon the recommendation of the Inspector General of Customs in the first part of this year prior to the formation of the Yangtse River Commission. Later the Ministry of the Interior sent to this Commission the preliminary report of Mr. Palmer for consideration, which was duly forwarded to the Technical Committee. The Technical Committee, after having studied the situation, made the recommendation that inasmuch as it would be difficult in a short period to collect all the data and information required by Mr. Palmer as mentioned in his Preliminary Report, the time for the visit of Mr. Palmer be postponed for one year in order to enable the Committee to collect the needed information. This decision was communicated to the Customs Administration for transmission to Mr. Palmer by the Inspector General of Customs.

The work of the various survey parties has close bearings upon the plan Mr. Palmer is to work out during his next visit. Now that Mr. Palmer has been officially engaged by this Commission as its Consulting Engineer, the Committee should directly consult him from time to time in order to get the best results. This decision has been communicated to the Customs Administration for transmission to Mr. Palmer through the Inspector General of Customs.

For your information copies of correspondence on the subject are herewith enclosed.

THE YANGTSE RIVER COMMISSION.

TO THE TECHNICAL COMMITTEE.

(Letter of Appointment from the Yangtse River Commission to Mr. F. Palmer).

Peking, December 11th, 1922.

Sir:—

The Yangtse River Basin is of great extent and its resources are immense. The River is the country's foremost means of communication. But owing to years of neglect numerous shoals have formed and created hidden dangers and the people have suffered. Your knowledge is profound and your name is widely known. You are hereby appointed Consulting Engineer to this Commission, in which capacity we trust you will bestow upon us your great knowledge and assistance.

THE YANGTSE RIVER COMMISSION.

TO MR. F. PALMER.

Letter from the Customs Administration—Ref. No. Eleventh Year 676—to the Yangtse River Commission concerning the forwarding by the Inspector General of Customs of the Commission's letter of appointment to Mr. F. Palmer.

Peking, December 15th, 1922

Sirs:—

We beg to acknowledge receipt of your note of Ref: No. 31, enclosing letters to be forwarded to Mr. F. Palmer through the Inspector General of Customs in reference to Mr. Palmer's appointment to investigate the Yangtse River, and to inform you that the said letters have been so forwarded. We will communicate with you again upon receipt by the Inspector General of Customs of a reply from Mr. Palmer.

THE CUSTOMS ADMINISTRATION.

TO THE YANGTSE RIVER COMMISSION.

Letter from the Yangtse River Commission to Mr. F. Palmer concerning the terms of his engagement.

Peking, December 11th, 1922

Sir:—

Last year, before the establishment of this Commission, the Inspector General of Customs, acting on behalf of the Customs Administration and the Ministry of the Interior, invited you to investigate conservancy conditions on the Yangtse upon the following terms suggested by the Government:

The preliminary investigation was to be made during the course of the present month (December 1921) and for your services in connection with this investigation and the report to follow it your fee was to be £1,000, all expenses included:

So soon as the Yangtse Conservancy Commission should have been constituted the Commission would invite you formally to undertake next year (afterwards changed to 1923) a detailed study of the Yangtse and to submit a report embodying your considered recommendation for conservancy works. Your fee for this detailed investigation and report would be £6,000, all expenses included:

On completion of the detailed investigation and report the Government would decide what further steps should be taken, and would not consider itself bound in any way towards yourself personally in regard to any further arrangements that may be decided upon.

These terms were duly communicated to and accepted by you.

As recommended in your Preliminary Report this Commission has now formed a Technical Committee to compile the material desired, and the American Engineer, Mr. Stroebe, has been duly engaged to effect the necessary surveys for your use upon your return to China next year. But as the procedure adopted and results obtained by the surveying parties will be of concern to you in your future plans, you are requested to communicate your most recent address to the Technical Committee direct, in order that monthly reports of results obtained by the surveying parties may be forwarded to you for study; and should you consider that any action taken by them ought to be modified in any way, you are requested to communicate direct with the Committee on the subject.

The Commission having now been constituted, we hereby, in conformity with the above-mentioned arrangement, formally appoint you Consulting Engineer to the Commission so as to enable us to consult with you as occasion demands. Your report is to be submitted, and your fee therefor will be payable as provided for. Should surveying conditions necessitate your arrival in China at an earlier or later date than previously arranged, the Technical Committee will communicate with you direct. In the meantime we send you herewith a letter of appointment, receipt of which you are requested to acknowledge.

THE YANGTSE RIVER COMMISSION.

To MR. F. PALMER.

Since the Commission has been formed, it should officially invite Mr. Palmer to be its consulting engineer in accordance with the conditions arranged. With regard to the comprehensive report to be prepared and the amount of compensation to be paid they should be carried out as provided in the second condition. As to the time for Mr. Palmer's next visit to China, it depends upon the progress of the survey and it had better be left to the Technical Committee to decide.

Mr. Palmer as an engineer commands respect on account of his high learning and great experience, and his name is known all over the world. Now he is extending his activities to this part of the world by rendering assistance to China and for this the Commission feels grateful. Much credit must be given to the Inspector General of Customs, Sir Francis Aglen, who has been very much concerned with flood conditions in China and made great efforts to combat the disaster in the interest of the people. He is a man of determination and persistence. This Commission is enclosing a letter to Mr. Palmer and also a letter of appointment which we shall be obliged if you will kindly ask the Inspector General of Customs to forward to the said engineer.

THE YANGTSE RIVER COMMISSION.

TO THE CUSTOMS ADMINISTRATION.

Letter from the Yangtse River Commission to the Customs Administration in reference to the terms for the engagement of Mr. Palmer's services and forwarding to him a letter of appointment.

Peking, December 11th, 1922.

Sirs:--

We learn from copies of the documents sent to us by the Ministry of the Interior concerning the engagement of Mr. Palmer to make an investigation of the Yangtse river that the said engineer was recommended by the Inspector General of Customs in the first part of the year and temporarily engaged for service by the Customs Administration in consultation with the Ministry of the Interior prior to the establishment of this Commission and that the Inspector General of Customs had put the terms proposed by the Government under the following three headings:

1. Within the month Mr. Palmer should make an investigation of the conditions of the river and prepare a preliminary report for which he would receive £1,000, including his salary and travelling and miscellaneous expenses.

2. After the organization of the Yangtse River Commission he would be officially invited by the Commission to prepare a comprehensive report for which £6,000 for compensation including his salary and travelling and miscellaneous expenses would be paid, and no other expenses charged.

3. Upon the completion of his report, Mr. Palmer's duty would be terminated. It will then be up to the Central Government to decide what it is going to do, and the Government will in no way be bound by the report of Mr. Palmer.

The said Engineer has replied agreeing to the conditions. Later the preliminary report of Mr. Palmer was sent to us. This Commission regarded the three conditions mentioned by the Inspector General of Customs as satisfactory and acceptable after careful consideration. The preliminary report of the said engineer was likewise satisfactory and submitted at the general meeting at which it was decided to establish a Technical Committee to proceed with the carrying out of the plan.

As for Mr. Palmer's suggestion of collecting in advance data for his comprehensive report, the Technical Committee has engaged an American engineer, Mr. G. G. Stroebe, to direct the hydrometric and topographic parties to collect data with speed so that the needed information will be ready next year when Mr. Palmer will return to China to make a careful study of the question. Inasmuch as the work of the various parties and the results will have a close bearing upon Mr. Palmer's comprehensive plan, we shall be obliged if you will kindly request the Inspector General of Customs to let us have the latest address of the said engineer so that we can send him reports from time to time. If he has suggestions to make in regard to the collection of material, he can make them direct to the Committee.

Letter from the Yangtse River Commission to the Customs Administration requesting the postponement for one year of Mr. Palmer's next visit to China.

Peking, June 8th, 1922.

Sirs:—

This Commission is in receipt of a petition from the Technical Committee to the following effect:—

"In accordance with the instruction to study Mr. Palmer's report the Committee on May 16th held a meeting and the consensus of opinion expressed was as follows: The Yangtse traverses several provinces, but there is a general silting up of its bed. The situation has been aggravated by summer and autumn freshets in 1920 and 1921, during which time there was heavy rainfall, and the Yangtse and its various tributaries rose simultaneously. The provinces along the river suffered considerably through the overflowing of rivers such as the Hsiang Ho of Hupeh in the upper reach of the Yangtse, the Huai Ho of Anhwei in the middle reach, and the Grand Canal of Kiangsu in the lower reach, and the various lakes and streamlets in its neighbourhood. Directly or indirectly, all of them received disastrous effects. In deciding to work out a practical plan for the improvement of the river the Committee lays special emphasis on the importance of surveys. The prevention of floods, the problem of irrigation and the question of navigation will have to be looked after at the same time; otherwise no permanent improvement can be secured, and the people cannot be saved from being subject to disaster.

"Mr. Palmer in his preliminary report held the view that it is necessary, first of all, to collect all the data and material in preparation for the drafting of a plan to improve the river fundamentally, but as this Committee has been in existence for a short period and as local conditions have been troubled of late it was not possible to hold meetings until now. At the present meeting it was decided to wire to Mr. Stroebe, whose engagement as Chief Survey Engineer had been decided upon. Mr. Stroebe would not be able to arrive in China before the end of June, it would take several months to have survey parties organized after his arrival and the time of Mr. Palmer's visit to China would then be not very distant. The time allowed for the work would not be sufficient. The members of the Committee finally decided to ask the Commission to request the Customs Administration to request Mr. Palmer through the Inspector General of Customs to defer his visit to China for one year in order to enable the collection of the needed data and material. By such arrangement much money may be saved and better results obtained. The preliminary report will be brought up for discussion after the arrival of Mr. Stroebe and the result then reached will be communicated to you in due course of time."

THE YANGTSE RIVER COMMISSION.

TO THE CUSTOMS ADMINISTRATION.

the Chihli Flood Prevention Commission, Mr. von Heidenstam, the Engineer-in-Chief of the Whangpoo Conservancy Board, Mr. Eldridge, Coast Inspector of the Marine Department of the Maritime Customs, and the aforesaid Mr. van der Veen. The estimate for the expenses of the Committee, for which a grant from revenue is now desired, was submitted by the above four members of the Committee who were specially deputed to meet at Shanghai and discuss the question.

The grant, if sanctioned, will not affect in any way the priority of the foreign loans and obligations. It was anticipated in the estimate laid before the Diplomatic Body by the Inspector General in connection with the appropriation for the Wai-chiao Pu. The interests of trade at stake are so far-reaching and widespread that it may without question be considered a legitimate charge on the revenue derived from trade, and it deserves priority of claim over charges not so intimately associated with trade.

The Inspector General feels no hesitation in earnestly recommending this application to the approval of the Diplomatic Body.

FRANCIS A. AGLIN,
Inspector General of Customs.

Peking, 6th April, 1922.

MEMORANDUM.

Proposed Grant from Revenue for Expenses of the Preparatory Technical Committee appointed by the Yangtse River Conservancy Commission.

The question of Yangtze conservancy, with the twofold aim of improvement of navigation and prevention of floods, has in recent years assumed a growing importance. Public opinion on the subject has been gathering weight, and attention has been focused upon it by resolutions passed by foreign Chambers of Commerce and the activities of various Chinese associations.

On the whole the waterway from Woosung to Hankow offers little impediment to navigation, but there are certain crossings which in winter time seriously limit the draught of river steamers and cause delay and heavy expenses of lighterage to even partially loaded vessels which are considered to be avoidable. At Chinkiang a natural process of erosion and bank-forming is tending to isolate the port and, if unchecked, will, before many more years have passed, leave the port without direct access to the river. The Middle Yangtse—the section between Hankow and Ichang—and the Upper Yangtse—the section between Ichang and Chungking—present problems of a special kind, which a rapidly increasing steamer traffic is forcing upon the attention of the authorities and the various trading interests affected.

In order to study the question in all its aspects the Chinese Government, realizing that it is far too large a one to be dealt with on local lines such as having initiated the various conservancy projects now in operation on the Liaoho, the Hailho, the Whangpoo, the Min River and the Canton waterways, has constituted a Yangtse River Conservancy Discussion Commission with headquarters in Peking. The Commission is presided over by the Minister of the Interior as Chairman and the Director General of the Shui W'u Ch'u as Vice-Chairman, and among its members are to be found representatives from the various boards, the technical experts of the Ministry of the Interior, and Mr. van der Veen, the Chinese Government's Conservancy Adviser. The Inspector General of Customs has also been requested to attend the meetings, which are held once a week in the Ministry of the Interior.

While the Commission was in process of formation the Chinese Government invited an eminent foreign engineer to visit China in the autumn of 1922 to spend a considerable time on a detailed examination of the River and to submit a report on the conservancy problems involved. One of the first acts of the Commission after its formation was to appoint a preparatory Technical Committee to undertake the work of procuring certain necessary data indispensable for any serious consideration of these problems. The work necessitates establishing posts on the River and adjacent lakes for taking hydrometric observations, the setting up of tide-gauges, the survey of certain special localities, the collection of maps and charts, and an examination of local records, etc., etc.

The preparatory Technical Committee appointed to undertake this work consists of certain Chinese technical employees of the Ministry of the Interior associated with Mr. Yang Pao Ling, a Chinese engineer of note who has done good work in connection with

Reply from the Ministry of Foreign Affairs to the Ministry of the Interior regarding the appropriation of funds for the survey.

Peking, May 8th, 1922.

Dear Sirs:

In reply to your letter of March 16th, 1922, stating:

“The problem of the Yangtse River is a serious one. For the purpose of improving the river, this Ministry, after consultation with the other government organizations, has formed a Yangtse River Commission. This Commission has decided at a general meeting to establish a technical committee to carry out its programme. Now the technical committee has been formed and it is estimated that its monthly expenses will amount to \$26,400. A proposal to ask the Ministry of Finance to provide this fund from the customs surplus has been submitted at a cabinet meeting and the proposal has been approved. Your Ministry is kindly requested to communicate with the Diplomatic Body on the subject.

We beg to inform you that we have written to the Doyen of the Diplomatic Body upon receipt of your letter, requesting him to secure concurrence in the proposal from the Legations concerned. We are now in receipt of a despatch from the Doyen advising that the Diplomatic Body has considered this appropriation as of benefit to the people and therefore has given its approval.

THE MINISTRY OF FOREIGN AFFAIRS.

TO THE MINISTRY OF THE INTERIOR.

Letter from the Ministry of the Interior to the Yangtse River Commission regarding the approval by the Cabinet meeting of the proposal to secure an appropriation from the customs surplus for survey expenses.

Peking, March 6th, 1922.

Sirs:—

This Ministry is in receipt of a letter from the Cabinet stating: "The proposal of your Ministry to secure from the Ministry of Finance a monthly appropriation from the customs surplus to meet expenses for the survey which will be undertaken by the Technical Committee of the Yangtse River Commission has been approved at a Cabinet meeting." We are herewith enclosing for your information a copy of the proposal submitted by this Ministry.

THE MINISTRY OF THE INTERIOR.

(The Proposal of the Ministry of the Interior)

It is a known fact that the Yangtse is a very important river. In the interest of irrigation and navigation, it is essential to have it improved. Before it is possible to frame a comprehensive plan to attain this object it is necessary to have a detailed survey. Some time ago the Yangtse River Commission decided to establish a technical committee and to entrust it with the task of organizing survey parties to proceed with the work. This decision was personally communicated to the President of the Republic by the Minister of the Interior.

The scope of the survey planned will include hydrometric survey, gauge readings, levelling, etc, which will require a monthly sum of \$26,400, including administrative and other expenses. It is now proposed that the Ministry of Finance ask the Inspector General of Customs to appropriate every month from the customs surplus this sum to meet the requirement. We submit this proposal at a Cabinet meeting for consideration.

To the Yangtse River Commission.

RECAPITULATION AND SUMMARY:

Triangulation and Charting	\$23,600
Gauging of Discharge and Water Gauges	5,000
Levelling	5,000
Superintendence	2,000
Administration	8,000
Unforeseen Expenditure Appro. 15%	6,400

Grand Total. \$50,000 or approximately Haikwan Tls. 35,000

Purchase of Plant:

Under the heading "Triangulation" mention has been made of the floating plant.

Per party this plant will consist of:

1 large river launch costing approximately	\$80,000
2 Houseboats costing approximately \$3,000 per piece	6,000
2 Pinnaces or Launches costing per piece approximately \$20,000 ..	40,000

Total per Party. \$126,000 or for three parties at least \$378,000—say \$400,000.

As the above item is a rather large sum and the amount may be difficult to secure at present, the purchase may be effected by a loan or by paying off in instalments.

Assuming that 15% is required per annum for payment of interest and amortization, a sum of \$60,000 will be needed yearly or \$5,000 per mensem, which is the item quoted in the estimate for the triangulation.

The undersigned in making the above proposal are of the opinion that whereas a river engineering survey of the Yangtse is a big undertaking which will take several years to complete and which afterwards will continuously have to be kept up to date, it is much more economical to buy the necessary outfit than to hire it. Especially so, as the only organization which is in position to lend vessels in this connection, viz. the Maritime Customs Service, is only able to do so from time to time.

In view of the foregoing we therefore strongly recommend the Commission to purchase its own plant.

However, pending the building up of an organization, capable to meet the requirements for this survey, we consider it advisable, as a temporary measure, to arrange, if possible, with the Marine Department of the Customs, to undertake the work of starting the triangulation and preparation of the necessary charts.

We have the honor to be,

Sir,

Your obedient servants,

(Signed) YANG PAO LING
H. VON HEIDENSTAM
H. VAN DER VEEN
CHOW ZIAN YIEN
T. J. ELDRIDGE.

Attest:

T. C. SHONG.

III. *Levelling:*

For running a line of levels from Kiangyin to Hankow, a distance of approximately 500 miles, five parties may be utilized, each consisting of:

1 Instrument Man	\$250	
1 Assistant	150	
8 Coolies	= 120	
1 Foreman	30	
1 Houseboat	100	
	<hr/>	
	\$650	
Allowance 25% of salary	125	
Contingencies	225	
	<hr/>	
Cost of 5 parties	5 × 1,000 =	\$5,000
		<hr/>
	<i>Total for Levelling.</i>	\$5,000

IV. *Superintendence:*

For supervising and conducting the work of the various parties it will be necessary to have a responsible officer in charge of the survey.

Including field allowance, travelling expenses and salary, which latter may be taken to amount to approximately \$1,000, the total expenditure to be provided for a Chief Surveyor will be approximately	\$2,000
	<hr/>
<i>Total for Superintendence.</i>	\$2,000

V. *Administration:*

The Head Office (headquarters in Peking) consisting of, the executive body, being the members of the Committee, Secretaries, Treasurers and the Secretaries' and Treasurers' Staff

\$5,000

Shanghai Office.

Chief Surveyor (See under "Superintendence").

1 Chief Draftsman	\$300	
8 Tracers @ \$100	= 800	
2 Typists @ \$100	= 200	
1 Asst. Accountant	200	
1 Chief Clerk & Assts.	500	
House rent, lighting, stationary, drawing instruments and general expenses	1600	\$3,000
		<hr/>
	<i>Total for Administration.</i>	\$8,000

Estimate of the Monthly Expenditure for carrying on the Necessary Surveys and Investigations.

I. *Triangulation in conjunction with the preparation of the necessary topographical and sounding charts.*

(a) *Staff:*

For this work three parties may be utilized, each to be subdivided into three sections consisting of:

1 Instrument man	\$250		
1 Assistant	150		
8 Coolies @ \$15	= 120		
	3 × 520 = 1,560		
Per party	= 440	...	\$2,000

(b) *Plant:*

Each party will have at its disposal one large river launch, two pinnaces and two houseboats of which the monthly running expenses are estimated at:

Per launch	\$2,000		
„ pinnace	\$500 = 1,000		
„ houseboat	100 = 200		3,200

(c) *Stations:*

Each party will require for instruments, beacons, etc. 1,000

Total per Party. \$6,200

For three parties 3 × 6,200 = \$18,600

To this has to be added a certain sum for *amortization and interest* of the capital required for the purchase of the necessary plant (See below "Purchase of Plant") = 5,000

Total for Triangulation. \$23,600

II. *Gauging:*

For discharge measurements, there will be four stations to start with, viz. at Tatung, Poyang Lake, Kiukiang and Hankow. As Kiukiang and Poyang stations can be combined it will only require 3 parties, each consisting of:

1 Instrument man	\$250		
1 Assistant	150		
10 Coolies @ 15	150		
Junks	150		
Travelling allowance	150		
Contingencies	150		
Cost of 3 parties	3 × 1,000 = \$3,000		
Erection, replacing and reading of water gauges			2,000

Total for Gauging. \$5,000

The Programme of Survey recommended by the Technical Committee.

Shanghai, March 4th, 1922.

The President,
Yangtse River Commission, Peking.

Sir,

As an improvement of the Yangtse River, in connection with the irrigation, flood prevention and navigation interests, is a work of such magnitude that a thorough survey and investigation is necessary before any comprehensive scheme of improvement can be planned, we, the undersigned, unanimously make the following recommendations:

A. The programme of the survey should be:

- (1) The connection of levels throughout the navigable portions of the River.
- (2) Triangulated survey of the whole River.
- (3) The continuous gauging of the river discharge at a few important points:
 - (a) Immediately above tidal influence, say at Tatung.
 - (b) Below the entrance from Poyang Lake.
 - (c) At Kiukiang.
 - (d) At Hankow.
 - (e) The Han River just above its junction with the Yangtse.
 - (f) Below and above the eastern entrance from Lake Tungting.
 - (g) Above and below the western entrance to Lake Tungting.
 - (h) At Ichang.
 - (i) At Chungking, below and above the junction with Kia Ling Ho.

The number and location of stations can be changed as circumstances may require.

- (4) Collection of such data as can be obtained from the official records at important cities along its course in regard to the course and levels of the River, such as:

Tatung	Kiukiang	Yochow	Chungking
Anking	Wuchang	Ichang	etc., etc.
- (5) Information and statistics of rainfall in the catchment areas.
- (6) Copies of all general topographical and navigational maps of such portions of the River as may be available, for instance, British Admiralty Charts, Chinese Customs Charts, the Chinese Military Surveys, etc., etc.

B. As the area under consideration is very extensive, the surveys and investigations should, to begin with, be confined to the lower reaches of the River, say from Hankow downwards, and thereafter gradually extended upriver as circumstances permit until eventually the whole River is included.

For the carrying out of the surveys and investigations of the River from Hankow downwards, we, the undersigned, unanimously submit the following programme and estimate for consideration and adoption:

REGULATIONS FOR THE TECHNICAL COMMITTEE.

ART. 1.—Owing to the necessity of carrying out certain technical works, the Yangtse River Commission hereby organizes a Provisional Technical Committee.

ART. 2.—This Committee shall have authority to deal with all technical matters, under the general supervision of the Yangtse River Commission.

ART. 3.—The organization of this Committee shall be as follows: (a) Chairman, (b) Members.

ART. 4.—The Resident Chief of the Yangtse River Commission shall be concurrently the Chairman of the Technical Committee. He shall have general charge of the work of the Committee.

ART. 5.—There shall be six members on the Committee, who shall be appointed by the President, selected from among the members of the Yangtse River Commission. The members of the Committee shall have charge of all technical matters.

ART. 6.—There shall be one Secretary for the Committee, who shall be appointed by the President, selected from among the members of the Yangtse River Commission. The Secretary, under order of the Chairman, shall be responsible for all secretarial work, such as compiling reports, keeping documents and filings, etc., etc.

ART. 7.—The Committee shall organize different survey parties for collecting all necessary data. Regulations governing the organization of the survey parties will be drawn up separately.

ART. 8.—For the keeping of accounts and the making of budgets and estimates there shall be Treasurers for the Committee.

ART. 9.—The Chairman of the Committee shall appoint and engage secretaries and clerks for carrying out various duties that may come up.

ART. 10.—All plans and programs suggested by the Committee shall be submitted to the Yangtse River Commission for approval before execution. Such plans shall be accompanied by necessary explanations. The Chairman shall supervise the execution of such authorized works.

ART. 11.—Data obtained from surveys and investigation shall be first submitted to the Committee for approval, after which they shall be submitted to the Commission.

ART. 12.—Each member of the Committee shall have one vote. The majority of votes of all the members shall carry the decision.

ART. 13.—The Chairman of the Committee shall preside at all meetings and shall have the right to cast the deciding vote in case of ties.

ART. 14.—The President or one third membership of the Commission may submit to the Yangtse River Commission amendments to these regulations.

ART. 15.—This set of regulations shall become effective from the date of promulgation.

THE TECHNICAL COMMITTEE.

A *Technical Committee* was organized by the Yangtse River Commission to carry out the technical programme; the Members of the Committee being:

Chen Shih Li, Chairman, Chief of the Engineering Department, Ministry of the Interior.

Yang Pao Ling, Principal Technical Expert, National Conservancy Board; and Engineer Counsellor, Chihli River Commission.

T. J. Eldridge, Coast Inspector of the Maritime Customs.

H. von Heidenstam, Chief Engineer, Whangpoo Conservancy Board; and Member, Chihli River Commission.

H. van der Veen, Engineer Adviser, Ministry of the Interior and Ministry of Communications.

Shen Ping Huang, Chief Engineer, Kiangsu Grand Canal Board.

Chow Zian Yien, Chief Technical Expert, Ministry of the Interior.

- (d) At Hankow.
 - (e) The Han River just above its junction with the Yangtse.
 - (f) Below and above the eastern entrance to Lake Tungting.
 - (g) Above and below the western entrance to Lake Tungting.
 - (h) At Ichang.
 - (i) At Chungking, below and above the junction with Kia Ling Ho.
- (4) Such data as can be collected from the official records at important cities along its course in regard to the course and levels of the River, such as Tatumg, Anking, Kiukiang, Wuchang, Yochow, Ichang, and Chungking.
 - (5) Information and statistics of rainfall in the catchment areas.
 - (6) Copies of all general topographical and navigational maps of such portions of the River as may be available, for instance, British Admiralty Charts, Chinese Customs Charts, the Chinese Military Surveys, etc., etc.

In order that local interests shall receive every consideration, we think that the authorities in the various provinces traversed by the Yangtse should be asked to prepare a statement presenting to us as fully as possible any problems with which they may be confronted in regard to river matters and it might be possible for these representations to be placed before us personally during our inspection next October by an official deputed by each province. This would enable us to consider on the spot the question raised and it would be advantageous if the deputation could include a technical member with whom we could discuss any engineering or relative problem.

For the inspection next year it is proposed that our Committee shall assemble in Shanghai before the end of September and start on October 1st, to make a detailed examination of the River at least as far as Chungking. It is intended to travel upwards only in daylight so that the whole river may be inspected. With these limitations, and allowing time for detailed examination at critical points, progress is not likely to exceed twenty five miles a day as an average, so the journey to Chungking may occupy twenty or more days. On the way back a second opportunity will be afforded to inspect any reach or crossing which our discussions on the upward journey may prove to be desirable.

It will be advantageous if, as on our preliminary inspection, the Customs River Inspectors are allowed to accompany the Committee over the districts under their charge, and also be prepared to answer any general questions affecting the regime of the River.

We have the honor to be,

Sir,

Your obedient servants,

(Signed) F. PALMER

H. VON HEIDENSTAM

YANG, PAO IANG.

TO SIR FRANCIS AGLEN, K.B.E.

Inspector General of Customs, Peking.

Preliminary Report by Messrs F. Palmer, H. von Heidenstam and Yang Pao Ling.

Shanghai, China, December 21, 1921.

Sir,

With reference to the instruction contained in your letter No. 5469 General, of December 7th, we beg to report that a very preliminary inspection of the River Yangtse from Hankow to Woosung was undertaken during the week December 12th to 17th inclusive. The object of this inspection was, as you are aware, to form some idea of the magnitude of the River, of the difficulties in the way of navigation, of the aids afforded to navigation by the present system of charting, surveys, marking with beacons and lights of the main channels, and, finally to suggest what further information and data might be gathered together during the next few months in order that when the detailed investigation and report which we are instructed to make next Autumn is undertaken all the particulars readily available may be at our disposal for consideration before making our recommendations as to the direction and scope of the data which it will be necessary for the Yangtse Commission to prepare before embarking on any comprehensive scheme of improvement of the River.

During the course of our inspection many quite recent surveys were produced of those reaches and crossings which govern the draft of steamers navigating the River, and also charts which are being regularly made and corrected of the Estuary and of the ports.

Generally speaking, the restriction of draft below Hankow is confined to a very few places mainly between that City and Kiukiang, and it is desirable that triangulated surveys should be made of these reaches. From a statement kindly furnished to us by the Coast Inspector, it appears that from Hankow to Nanking, a distance of about four hundred miles, the total length of the river which offers any impediment to steamers with a draft of twelve feet is only twenty three miles, and from Nanking downwards there is no obstacle in the way of such steamers.

Further important information in regard to the whole river is, however, highly desirable and, although it is impossible to obtain before our next inspection all that may be ultimately necessary it may serve as some guide to the direction in which data is required if an outline is given of what would be useful, namely:

- (1) The connection of levels throughout the navigable portions of the River.
- (2) Triangulated survey of the whole River, and primarily:
 - (a) The triangulated surveys, referred to above, of those reaches and crossings which restrict the draft of steamers below Hankow.
 - (b) Triangulated survey of the lower River, say from Nanking downwards.
- (3) The continuous gauging of the River discharge at a few important points.
 - (a) Immediately above tidal influence, say at Tatung.
 - (b) Below the entrance from Poyang Lake.
 - (c) At Kiukiang.

(LETTER FROM SIR FRANCIS AGLLEN)

Mr. Palmer, eminent British engineer, whom the Chinese Government proposes to invite to make a preliminary report on the Yangtse, is now in Peking. He has called on the Inspector General, and states as follows:—

His engagements do not permit him to remain in the Far East beyond the 29th December, on which date he is due to leave Yokohama.

He is prepared to make a preliminary report on the Yangtse, in company with Mr. von Heidenstam, with a view to determining what data it is necessary to procure for a detailed report which will require from two to three months' continuous study on the Yangtse, to be undertaken in October 1922. His fee for the preliminary report to be made this month is £1,000. For the detailed report to be made next year the fee will be £6,000. Mr. Palmer wishes it to be understood that he does not desire to make the preliminary report unless it is the intention of the Chinese Government to invite him to undertake the detailed study and report of 1922.

Mr. Palmer is prepared to start at once for Hankow and to work down to Shanghai.

The Inspector General considers that if Mr. Palmer's services are to be retained, no time is to be lost. If a formal invitation cannot be issued until the Board of the Yangtse Conservancy is established, Mr. Palmer will have no time left in which to make his preliminary report. The Inspector General, therefore, suggests that the Nei Wu Pu gives authority to him to invite Mr. Palmer to make the preliminary report now and that when the Conservancy Board is constituted Mr. Palmer be formally requested to undertake the continuous study of the Yangtse in October 1922 on the data which in the meantime will have been procured.

If the Nei Wu Pu is agreeable to this suggestion, the Inspector General will make the necessary arrangements with Mr. Palmer and advance the funds necessary for his fee.

A prompt reply is requested.

FRANCIS A. AGLLEN

Inspector General.

Letter from the Customs Administration—Ref: No. Tenth Year 491—to the Ministry of the Interior forwarding copy of letter from Sir Francis Aglen regarding the engagement of Mr. F. Palmer.

Peking, December 5th, 1921.

Sirs:

In reference to the engagement of Mr. F. Palmer, a British engineer, you have written to us stating that a Yangtse River Commission would soon be formed and that the matter of the engagement of Mr. Palmer had better be left to the Commission to decide after its organization. Upon receipt of your letter we communicated its contents to the Inspector General of Customs and we are now in receipt of a reply from the Inspector General of Customs enclosing a resumé of the matter. The gist of the resumé is that Mr. Palmer has decided to leave Yokohama for England on the 29th of this month and that the time therefore was pressing. If Mr. Palmer were requested first to write a preliminary report on the Yangtse river, it would be necessary to give him £1,000, and if he were asked in the future to submit a comprehensive report, he would have to be paid an additional sum of £6,000. You are requested to make a decision so that the Inspector General of Customs can reply to Mr. Palmer. As to the fund mentioned, the Inspector General of Customs could advance it on behalf of the Ministry. We are herewith forwarding the letter of the Inspector General of Customs for your information and requesting that you will let us hear about it at an early date so that we can reply to the other party without much delay.

THE CUSTOMS ADMINISTRATION.

TO THE MINISTRY OF THE INTERIOR.

Circular Letter from the Yangtse River Commission to the Ministry of Agriculture and Commerce, the Ministry of Communications, the National Conservancy Board and the Civil Governors of Kiangsu, Anhwei, Kiangsi, Chekiang and Hupeh requesting assistance in the collection of material and maps, both public and private, for the preparation of a scheme to improve the Yangtse River.

Peking, February 18th, 1922.

Sirs:—

We beg to inform you that this Commission was inaugurated on February 10th and that the different Ministries concerned and the provinces along the Yangtse sent delegates to attend the inaugural meeting. As the Yangtse covers an immense area, it is felt necessary to collect extensively records and material for reference and study at the inception of the Commission's work. We therefore request that you will be kind enough to collect on our behalf available maps, records and plans of the Yangtse, either public or private, and send them to us. Should only one copy be in existence and should it be inconvenient to give it away, can you loan it to us? The Commission assumes responsibility for its safe return, and it will also be responsible for whatever expenses that may be incurred in this connection on its behalf.

THE YANGTSE RIVER COMMISSION.

**TO THE MINISTRY OF AGRICULTURE AND COMMERCE,
THE MINISTRY OF COMMUNICATIONS,
THE NATIONAL CONSERVANCY BOARD,
THE CIVIL GOVERNOR OF KIANGSU,
THE CIVIL GOVERNOR OF ANHWEI,
THE CIVIL GOVERNOR OF KIANGSI,
THE CIVIL GOVERNOR OF CHEKIANG,
THE CIVIL GOVERNOR OF HUPEH.**

Circular Letter from the Ministry of the Interior to the National Conservancy Board and the Civil Governors of Kiangsu, Anhwei, Kiangsi, Chekiang and Hupeh with reference to the Presidential approval of the proposal for the formation of a Yangtse River Commission.

Peking, December 26th, 1921.

Sirs:—

This is to inform you that by a Presidential order issued on December 3rd, 1921 the proposal for the organization of a Yangtse River Commission and the draft Regulations for same, consisting of fifteen articles, prepared by this Ministry in consultation with the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Agriculture and Commerce, the Ministry of Communications and the Customs Administration, were approved. This Ministry begs herewith to enclose a copy of the original petition to the President of the Republic of China and a copy of the Regulations for your information.

THE MINISTRY OF THE INTERIOR.

TO THE NATIONAL CONSERVANCY BOARD,
 THE CIVIL GOVERNOR OF KIANGSU,
 THE CIVIL GOVERNOR OF ANHWEI,
 THE CIVIL GOVERNOR OF KIANGSI,
 THE CIVIL GOVERNOR OF CHEKIANG,
 THE CIVIL GOVERNOR OF HUPEH.

ART. 11. A member or his representative who has made a proposal prior to discussion shall be asked to give explanations. This procedure however may be waived in the event that the proposal, in the opinion of the President, requires no explanation.

ART. 12. No two members shall have the floor at the same time.

ART. 13. The advisers of the Commission may be invited by the President to attend the meeting and express opinions and they shall have the power to submit proposals. Such proposals shall be submitted in writing, and if the Commission considers it necessary, the President may submit them for them and at the same time request the advisers concerned to be present and give explanations.

ART. 14. The voting shall be done either by rising or hand raising.

ART. 15. Upon the completion of the discussion, the Chairman shall ask the members to vote upon the proposal, and a majority vote is necessary to pass it. In the case of a tie, the Chairman shall cast the deciding vote.

ART. 16. In the event of a proposal being referred to a committee for investigation the Chairman shall appoint three to five members to constitute that committee, which shall report its findings at the general meeting.

ART. 17. Minutes shall be kept for each meeting.

ART. 18. Decisions shall be carried out in accordance with Article 13 of the Regulations for the Yangtse River Commission.

ART. 19. These rules of procedure shall be subject to revision from time to time.

ART. 20. These rules of procedure shall become effective upon their promulgation.

(RULES OF PROCEDURE FOR THE YANGTSE RIVER COMMISSION)

The following Rules of Procedure for the Yangtse River Commission were adopted on February 7th 1922 at a meeting of the representatives of the interested Ministries and official organizations.

ART. 1. The Yangtse River Commission shall be organized with the following personnel:

- (1) President
- (2) Vice-Presidents
- (3) Chairman
- (4) Sectional Chiefs
- (5) Members
- (6) Technical Members.

The sectional chiefs and members shall be of the same rank in all respects, but the technical members shall have the right to submit proposals and express opinions, but they shall have no voting power.

ART. 2. The times for regular meetings of the Commission shall be the second and fourth Fridays of every month, but extraordinary meetings, in the event of matters requiring immediate attention, shall be called by the President at any time.

ART. 3. The President shall preside over meetings, and in his absence, one of the Vice-Presidents shall take the chair.

ART. 4. The seats of the members shall be numbered and allocated by drawing.

ART. 5. The President and the members of the Commission shall have the right to submit proposals. Such proposals shall be sent to the General Affairs Section prior to the meeting so that its Chief can list them on the agenda, and the notice calling a meeting shall be sent to the members before the meeting.

ART. 6. Members on entering the meeting hall shall register their names in a book specially prepared.

ART. 7. Members shall not leave the meeting except when a recess is declared, and shall not retire before the adjournment of the meeting.

ART. 8. If a member shall not be able to attend the meeting he shall previously notify the Commission and ask leave of absence. Any such absence shall be made known to the meeting by the Chairman.

ART. 9. No meeting shall be held without the presence of a majority of the members.

ART. 10. Proposals which are similar in nature or deal with the same matter shall be submitted as one proposal for discussion.

ART. 9. The duties of the General Affairs Section shall be :

- (1) To attend to matters concerning meetings.
- (2) To draft documents and keep the official seals.
- (3) To supervise financial and miscellaneous affairs.
- (4) To attend to matters other than those assigned to the other two sections.

ART. 10. The duties of the Engineering Section shall be :

- (1) To attend to engineering plans.
- (2) To attend to matters concerning surveys.

ART. 11. The duties of the Investigation Section shall be :

- (1) To attend to matters requiring investigation.
- (2) To compile reports.

ART. 12. Clerks shall be engaged to copy documents and assist in general affairs.

ART. 13. Decisions of the Commission shall be carried out by the President in consultation with the interested offices.

ART. 14. The Rules of Procedure for the meetings of the Commission shall be drawn up separately.

ART. 15. The Regulations shall become effective upon their promulgation.

(REGULATIONS FOR THE ORGANIZATION OF THE YANGTSE RIVER COMMISSION).

ART. 1. The object of this Commission shall be to devise means for the improvement of the Yangtse River in the hope that flood disasters may be ameliorated and navigation may be further developed.

ART. 2. The personnel of this Commission shall be as follows:

- (1) President
- (2) Vice-Presidents
- (3) Chairman
- (4) Sectional Chiefs
- (5) Members
- (6) Technical Members
- (7) Advisers.

ART. 3. The highest official of the Ministry in charge of the undertaking shall be appointed by the President of the Republic to be President of the Commission to administer its affairs. There shall be three Vice-Presidents, who shall be chosen from among the high officials of the interested offices and the gentry living along the Yangtse River who are well informed on river conditions, and they shall be appointed by the President of the Republic to assist the President of the Commission in the administration of its affairs.

ART. 4. There shall be one Chairman, who shall be chosen by the President of the Commission from among the members of the Ministry in charge of the undertaking and recommended to the President of the Republic for appointment, and his duty shall be to look after affairs of the Commission under its President.

ART. 5. There shall be three sectional chiefs, chosen from among the members of the interested offices having much experience and adequate knowledge, and they shall be appointed by the President of the Commission. Persons to be appointed by the President of the Commission to be members of the Commission shall be chosen from among members of the interested offices in Peking as well as in the provinces.

ART. 6. The technical members shall be chosen from among Chinese and foreign hydraulic experts and they shall be appointed by the President of the Commission.

ART. 7. Chinese and foreign engineering experts shall be invited by the President to be advisers of the Commission.

ART. 8. There shall be three sections:—

- (1) General Affairs
- (2) Engineering
- (3) Investigation.

Mandate promulgating the Regulations for the Organization of the Yangtse River Commission.

The Regulations for the Organization of the Yangtse River Commission, drawn up and submitted jointly by the Ministry of the Interior, the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Agriculture and Commerce, the Ministry of Communications, the National Conservancy Board and the Customs Administration, are hereby approved and ordered to be enforced.

THE PRESIDENT OF THE REPUBLIC OF CHINA.

DECEMBER THIRD, THE TENTH YEAR OF THE REPUBLIC.

and Mr. H. von Heidenstam, and to have expenses incurred for the preparation of the report defrayed from the Customs revenue. All of the Ministries concerned are of the opinion that the trouble of the Yangtse not only affects navigation but also causes floods and therefore the questions of navigation and flood prevention should be treated together in order to save expenses. The section between Hankow and Nanking is particularly important from the view point of navigation, and the Chinese Government should give it special attention. Since the Ministry of the Interior and the other Ministries have decided to establish a Yangtse River Commission, the services of Mr. Palmer, whose assistance the Inspector General of Customs proposed to invite, had better be formally engaged by the Commission after its organization.

As to the expenses to be incurred in this connection, they may also be appropriated from the customs revenue. This appropriation has been already approved at a Cabinet meeting. Owing to the approach of the freshet season, only by speedily organizing the commission can the urgency of the situation be met. After much discussion with the interested offices the following Regulations have been drafted, and if they meet with your approval, the Ministries hope that these will be promulgated by Mandate in order that they may come into effect at an early date. As to the expenses now needed by the Commission, the Ministry of the Interior will make advances out of the fund for the National River Conservancy Commission temporarily. With reference to the funds needed for Mr. Palmer's preliminary report, the Customs Administration has secured it from the customs revenue. When the time for carrying out the improvement work comes, the Ministry of Finance will be approached for funds. Your Excellency is requested to read over the Regulations drafted by the Ministry of the Interior in consultation with the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Agriculture and Commerce, the Ministry of Communications and the Customs Administration and advise us as to whether or not they are acceptable.

THE MINISTRY OF THE INTERIOR.

THE MINISTRY OF FOREIGN AFFAIRS.

THE MINISTRY OF FINANCE.

THE MINISTRY OF AGRICULTURE AND COMMERCE.

THE MINISTRY OF COMMUNICATIONS.

THE CUSTOMS ADMINISTRATION.

TO THE PRESIDENT OF THE REPUBLIC OF CHINA.

Joint Petition from the Ministry of the Interior, the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Agriculture and Commerce, the Ministry of Communications and the Customs Administration, to the President of China, submitting for promulgation the Regulations for the formation of a Yangtse River Commission.

Peking, November 25th, 1921.

Excellency:—

With reference to the petition of Li Kuo Cheng, Director of the National Conservancy Board, concerning the urgent need of improving the Yangtse and requesting the formation of a commission to further the project, it was decided at a cabinet meeting to instruct the four Ministries to propose schemes to deal with the question for consideration and approval of the Cabinet. Now the Ministries have the honor to report that in spite of the fact that the area drained by the Yangtse constitutes Central China and forms the pivot of communications, the river itself has been unfortunately out of repair for a number of years and consequently inundations afflicting thousands of square li are periodically recurring.

In the Autumn and the Winter, when the river is shallow, shoals form a network and ships are literally chained together. In the recent years the people living along the river have been suffering considerably from floods. On account of this it is urgent that something be done and done quickly. It is for the purpose of ameliorating the catastrophe from floods and promoting facilities for communications that the National Conservancy Board has advocated the formation of a Yangtse River Commission, the inviting of various organizations to send technical representatives and those having an intimate knowledge of the Yangtse River to the Commission as members, and the engagement of several river conservancy experts to make investigations so that the different problems connected with the improvement of the Yangtse may be thoroughly considered and plans made to be carried out in the future. Truly this is the most important question of the day and should be solved as speedily as possible in order to guard against flood danger and to maintain at the same time the trade route.

The Ministry of the Interior has consulted all the offices concerned and it has been the joint decision to establish a Yangtse River Commission. The Ministry has accordingly transmitted the joint recommendation to the Cabinet for consideration and approval. Simultaneously a letter has been received from the Customs Administration forwarding the proposal of the Inspector General of Customs to improve the lower stream of the Yangtse, to engage in this connection the services of Mr. F. Palmer, well known British engineer, to ask him to make a preliminary report together with Mr. Yang Pao Ling

tween Woosung and Kiangyin is deeper and ships with twenty four foot draft can sail thereon the whole of the year. Foreigners have been considering the question of improving the Yangtse for some years. Their views however have differed widely. Some advocate the organization of a commission for the improvement of the river, and some hold the view that before the establishment of such a commission a technical committee should first be formed to collect data needed to make possible a more intelligent discussion of the question. Resolutions were repeatedly made to the foregoing effect, and it now becomes so urgent that the question must be taken up at once.

After careful consideration this Board has concluded that the improvement of the Yangtse, in view of the gradual silting up, cannot be further postponed and it is more expedient to take the initiative ourselves than to let others lead in the matter of improving the river. Furthermore, this year has again witnessed flood disasters in the provinces of Hupeh and Kiangsi. This Board, being responsible for all river conservancy works, cannot continue to ignore the urgency of the situation.

It is now proposed as an ameliorative measure that a commission for the discussion of the river conservancy of the Yangtse be organized in this Board and that the Ministry of the Interior, the Ministry of Finance, the Ministry of Agriculture and Commerce, the Ministry of Communications, the Customs Administration, and the administrative offices, the provincial assemblies and the various chambers of commerce, both foreign and Chinese, of the provinces situated along the river, be requested to send technical representatives or those having an intimate knowledge of the Yangtse, one for each institution, to the commission as members. In addition to these members it is proposed to engage several well known river conservancy engineers to make investigation on the spot and thoroughly consider various questions relating to the improvement of the river, and at the same time suggest different plans to deal with the situation. As the matter concerns international trade and the sovereign right of China, and is consequently of great importance besides being urgent, it is necessary to proceed with the carrying out of the scheme that may be decided upon without delay. This Board requests that a Mandate to order the organization of a Yangtse River Commission be issued and that the commission upon its formation be held responsible to execute its instructions immediately. After your approval of the recommendation has been received, regulations will be drawn up and submitted for your approval.

LI KUO CHENG

Director of the National Conservancy Board.

TO THE PRESIDENT OF THE REPUBLIC OF CHINA.

(MEMORANDUM)

Referring to the subject concerned, I have the honour to observe that the Yangtse derives its source from Chinghai, traverses the provinces of Szechuan, Yunnan, Hunan, Hupeh, Kiangsi, Anhwei and Kiangsu, and finally finds its outlet into the sea. With the exception of the upper stream, where the bed is high, the flow of the water is rapid and modern navigation is not practicable, the Yangtse is navigable for five thousand li, and the area which it traverses contains fertile soil and is commonly regarded as the agricultural, industrial and commercial pulse of Central China and the inexhaustible material supply depot for the whole of the country, upon which the foundation of the nation and the welfare of the people largely depend.

After China was thrown open to foreign trade, commercial ports along the river sprang into existence with rapidity, and those countries whose trade in China is extensive have established steamship navigation companies and maintained ships to ply between various Yangtse ports. One half of yearly exports and imports of China is attributed to the Yangtse region. The Yangtse is known as the artery of communication in Central China. Of late attention has been attracted to its gradual silting up and the increase of obstruction to navigation. Whenever the stream becomes voluminous, the overflowing of the banks occurs with the consequent disaster to the people. If means for the improvement of the river are not quickly found, not only would the disaster remain but a pretext would be afforded for general criticism of the Government's indifference. The question is therefore national in scope, and the importance of it is generally admitted.

In January 1921, the Cabinet was kind enough to send to the Board a copy of the resolution passed at the Conference of the British Chambers of Commerce in regard to the Yangtse, which reads:—

“That as a preliminary to the appointment by the Chinese Government of a Conservancy Board to improve the navigation of the Yangtse, as recommended in the resolution passed at last year's Conference, this Conference would strongly urge the nomination of a technical commission to make preliminary study of the whole question with a view to formulating general proposals as to the lines on which this work should be taken in hand.”

As the matter concerned river conservancy, this Board delegated its technical expert, Yang Pao Ling, to make further investigation. Inasmuch as the Whangpoo Conservancy Board of Shanghai and the Office of the Coast Inspector were well acquainted with the changes in the condition of the river, the Ministry of Foreign Affairs and the Customs Administration were requested to make the necessary arrangement for the Board to receive from them whatever information and assistance that are available. The result of investigation shows that except in July, August and September, when the vessels with twenty-six foot draft can steam to Hankow, the water in the Yangtse during the rest of the year permits the navigation below Hankow of ships drawing eight foot water, although the course be-

Letter from the Cabinet to the Ministry of the Interior referring to the request of the National Conservancy Board for the formation of a Yangtse River Commission and forwarding copy of a memorandum of the Board on the subject for joint consideration.

Peking, August 29th, 1921.

Sirs:—

This is to inform you that the Cabinet is in receipt from the President's Office of a petition from Li Kuo Cheng, Director of the National Conservancy Board, in which he states that the Yangtse River should be improved as early as possible and a Mandate should be issued authorizing the organization of such a commission to consider the matter. The Cabinet is also in receipt of a memorandum giving details of the recommendation.

At a Cabinet meeting it was decided to refer the matter to the Ministry of the Interior, the Ministry of Finance, the Ministry of Agriculture and Commerce and the Ministry of Communications for joint consideration as the importance of it was generally realized, and ask these four Ministries to submit plans for the Cabinet's approval. Identical letters were sent to the other Ministries herein mentioned.

THE CABINET.

TO THE MINISTRY OF THE INTERIOR.

DOCUMENTS

giving all information regarding the change of the conditions of the river, and the resultant advantages and disadvantages, both apparent and otherwise. When we see it, we simply stare at the map and cannot make much out of it and oftentimes read into it different meanings. How pitiable it is that there are Chinese who have never laid their eyes on the map or who have never heard of its existence.

It is timely that the Ministry of the Interior should now have organized the Yangtse River Commission and that a survey department is maintained in Shanghai to survey the section between Hankow and Kiangyin and collect hydrometric and topographic data as a preliminary measure. In addition to the survey of the Huai Ho, another river to be surveyed by the Chinese is the Yangtse. Results obtained from May 1922 up to the present are now incorporated in a book form ready for publication. Prior to the carrying out of the improvement work, there would undoubtedly be more surveys of the river as the circumstances may permit. I am happy that a day will come when the Yangtse will be improved, and that after all, the Chinese people are not afraid of undertaking important works in the end. Master Sung says: "Any man in the street can be Emperor Yu. If the man in the street can be Emperor Yu, that is what Emperor Yu desires."

CHANG CHIEN

Vice-President of the Yangtse River Commission.

Nan Tung Chow, Kiangsu, January 25th, 1923.

PREFACE.

The Yangtse, over 3,000 miles long and traversing six provinces, is one of the best known rivers in the world. The first mention of it in history dates from the time of Emperor Yu (B. C. 2205-2197), who canalized the Hwang Ho, the Huai Ho and the Han Ho. The benefit it has conferred upon the people of China for four thousand years has been truly great and far-reaching. In spite of this, nothing has been written on the improvement of the Yangtse although there are many persons who would readily discuss such subject as the Hwang Ho, the Huai Ho or the Han Ho. Is it due to the existence of a large class of people who are afraid of undertaking anything staggering imagination and are content with what they have that no attention has been paid to the titanic task? The process of silting up has however raised the river bed of the Yangtse in Kingchow and Hsiangyang (Hunan and Hupeh) while this is also causing floods in Tungchow and Taihsin (Kiangsu). This unsatisfactory condition has been tolerated for over two hundred years.

Since the beginning of China's intercourse with the West, foreign countries have been much benefited by the Chinese carrying trade. Ships with heavy tonnages and boats for river navigation, during high water in the Yangtse, ply between ports with a large measure of freedom, but at the low tide the river becomes shallow and navigation difficult. With the gradual silting up of the section between Hankow and the outlet in Kiangsu, shown by the appearance, now and then, of shoals and channels in the river bed, a hindrance to navigation has come into existence. The cultivation of the silted up land on both banks for private profit intensifies the obstacle to the easy discharge of confluent water from various streams.

In my study of books and maps on the control of waters I cannot help admiring Wang Pai Hsin of Lan Li for his treaties dealing with river improvement in general, upon which he had bestowed much thought. His scheme and his knowledge were far above those of his contemporaries. If the time is not mature, there is, however, no hope for any plan to be carried out regardless of its merit. I have likewise cherished the wish of improving the Yangtse for over twenty years. It was not until after the various countries interested in China had made proposals for the improvement of the river that the people began to hear of it and feel the necessity for it.

The people hardly know that after the commencement of Chinese intercourse with the foreign countries, Britons have been surveying the Yangtse for over thirty years. In the course of my study of the work for shore protection in Tungchow, I happened to possess a Yangtse map made by some Chinese fifteen years ago which I highly valued, but later I discovered that the map in possession of Britons was made thirty years ago,

Thus encouraged, the writer consulted the different Ministries and official organizations interested in the matter. Finally it was jointly decided to establish a Yangtse River Commission and to assemble Chinese and foreign hydraulic experts to evolve an improvement scheme. Mr. F. Palmer, a well known British engineer, was invited to prepare reports outlining the scheme. Subsequently, a technical committee was organized to take charge of surveys and other technical matters. Mr. G. G. Stroebe, an experienced American engineer, was engaged to head the survey department. Later, several survey parties were formed to carry out the programme of the Commission.

The first annual report containing a resumé of the works done between July and December 1922 and illustrated with maps and blue prints, is now ready for press, and at the request of the Technical Committee the writer is glad to write for it a preface. After having cursorily read it over, he must say that the attached maps and tables are well prepared and the report itself is carefully compiled. The maps of the Technical Committee have gone even into greater detail than the maps made by Ma Chin-ling and the British Admiralty. In the future, if this important work can actually be carried out, it would be of a great service to the country and much credit to those who are devoting to it attention and energy. At the same time it would fulfil a part of my long cherished ambition.

KAO LING WEI

President of the Yangtse River Commission.

Peking, January 30th, 1923.

PREFACE.

For several thousand years none in China was more distinguished than Emperor Yu in river conservancy works. Although his great achievements are hardly visible today because of the centuries which have passed, his able discourse on the composition of the soil, the gradation of land taxation, the draining of rivers and the reclamation of the high and low land, as recorded in the book on his life work, still live. All of these subjects were carefully and thoroughly treated. A comparative study of the present method of controlling water which lays special emphasis upon topographical and geological surveys as first prerequisite will show that the old and the new principles of hydraulic engineering are practically the same although the application of them may be somewhat different.

After the time of Emperor Yu, persons who were adept in the regulation of waters were not wanting in each generation. And many volumes on river conservancy have since been written. These, however, deal principally with the heightening of dykes for protective or utility purposes and they hardly touch the necessity of deepening the river. Usually their authors had a good local knowledge, but they were conspicuously ignorant of the conditions of nation-wide scope inasmuch as they had made no investigation to support their view, and hastily concluded that the most important measure of hydraulics was the strengthening of the dykes and banks. At the same time the best known river in China, the Yangtse, has singularly been left alone and allowed to change its course without restriction or regulation. For its improvement nothing whatsoever has been done. Is this not a great national pity?

As a result of many centuries of wilful neglect, shallows in the Yangtse near Chungking and Kueichow now stand in array like so many pieces in a checkered board; shoals in Kiangsu and Kiangsi are seen everywhere emerged prominently; overflowing of the banks occurs when the water rises; obstruction to navigation is encountered at every turn in the Spring and the Winter. How can the writer of this preface refrain from being deeply grieved over the most important avenue of commerce, upon which the whole country depends for both irrigation and transportation, being allowed gradually to deteriorate?

Years ago when the writer was an official in Hupeh, he used his spare moments to inspect the Yangtse. Upon observing during his inspection trips the gradual silting up of the river, which must be detrimental to the people at large, he turned his thought to the wonderful accomplishments of Emperor Yu and a strong desire then came to him to try to curb the evil tendency. On account of China's political vicissitudes and financial stringency he was not able to satisfy his wish. The chance of doing something constructive came in the Spring of 1922 when he became Minister of the Interior. Just at that time Hupeh, Kiangsi, Anhwei and Kiangsu suffered anew from the serious inundations caused by the overflowing of the Yangtse waters. Numerous petitions crying for help were received from the afflicted provinces. Simultaneously foreign merchants trading in China, finding the river in an unsatisfactory condition from the viewpoint of navigation, submitted recommendations, one after another, urging its early improvement.

The Committee then took steps to secure a Chief Surveyor Engineer and engaged Mr. G. G. Stroebe, an American engineer of experience in the Public Works Department of the Philippine Government. Mr. Stroebe arrived in China the latter part of June, and the Committee at once started the organization of the Survey Department. The Survey work has been going on ever since.

The Committee wishes to mention the important part played by H. E. Kao Ling Wei, the Minister of the Interior, H. E. Sun Pao Chi, Director General of the Customs Administration, H. E. Chang Chien, the veteran industrial leader of China, and Sir Francis A. Aglen, the Inspector General of Customs, in the organization of the Yangtse River Commission. The Committee finally wishes to acknowledge the valuable assistance given by the Whangpoo Conservancy Board, and the Marine Department of the Customs, in helping to have the investigation work started. The Committee realizes the responsibility of its work and the difficulties it will have to overcome, and sincerely hopes that the intelligent public will continue to give it the support and assistance which will necessarily be required to bring the work to a success.

THE TECHNICAL COMMITTEE.

Peking, January 1923.

chow, and finally submitted a report, strongly urging that the Government should organize a Commission to make a study of the Yangtse.

The report was referred by the President to the Cabinet for action. The Cabinet Ministers, after many discussions, referred the matter, because of its importance, to the Ministry of the Interior, the Ministry of Foreign Affairs, the Ministry of Communications, the Ministry of Finance and the Ministry of Agriculture and Commerce, for action. However, as the saying goes, "Everybody's business is nobody's business," the document was pigeon-holed, and for some time nothing was heard of it.

It was not until December, on the occasion of the presence in China of Mr. F. Palmer, a British engineer of repute, that the matter was again brought to a head. On the proposal of Sir Francis A. Aglen, Mr. Palmer was asked by the Chinese Government to make an inspection of the river from Hankow to Shanghai. Mr. Yang Pao Ling and Mr. H. von Heidenstam were delegated to accompany him. The party left Hankow on December 12th, and reached Shanghai on December 17th, 1921. The trip was taken in the Customs' revenue cruisers; the river inspectors of the Customs who had been instructed to provide all information in their possession accompanied the party.

After reaching Shanghai, Messrs. Palmer, von Heidenstam and Yang Pao Ling made a joint report in which they expressed their opinion that a certain amount of survey work should be undertaken at once.

Upon receipt of the report the Minister of the Interior, Mr. Kao Ling Wei, acted with great promptness. The President was interviewed and the matter was quickly settled at a subsequent Cabinet Meeting, and the Commission was formed by Presidential Mandate of December 3rd, 1921. In order to secure the fullest cooperation, the Director General of the Customs Administration, the Director of the National Conservancy Board and Mr. Chang Chien, were appointed vice-presidents on the Yangtse River Commission to assist Mr. Kao Ling Wei, the President. The Commission was given charge of all matters relating to the conservancy of the Yangtse. The Commission had as its members representatives of the different Ministries and delegates from the various provinces bordering the river. With such a representation one would naturally think that the Commission could proceed to function without any difficulty; but such was not the case. No sooner had the Commission been formally organized than telegrams of complaint and articles of attack appeared in the newspapers, condemning the whole movement as disgraceful and unpatriotic. Much time and effort were spent to explain conditions in order to remove opposition and to gain the goodwill of the people.

The first task that fell to the lot of the Commission was the appointment of a Technical Committee to take charge of the technical investigations. A Committee of seven was appointed by the President, consisting of four Chinese and three foreign members.

The Technical Committee held its first meeting in Shanghai during the latter part of February and, after a careful study of conditions, recommended to the President, under the date of March 4th, 1922, a programme of work. This programme was submitted to the Commission and was approved.

INTRODUCTION.

In publishing this first report the Committee wishes to present to the public a collection of the more important documents bearing on the organization of the Committee, as well as a brief report of the principal work that the Committee has done during the first short period of six months.

BRIEF HISTORY OF THE COMMITTEE.

On November 7th, 1919, the Conference of British Chambers of Commerce held at Shanghai passed the following resolution:—

“That in view of the importance to China of the Yangtse River as its main inland artery of trade, and the little actual knowledge of its channels, this Conference is of the opinion that the time has come when an accurate survey should be made of the entire river and all main waterways which feed or drain the system. It is further suggested that the Chinese Government be petitioned to appoint at the earliest time a Conservancy Board to deal with the question, but that strong pressure be brought to bear on the government at once to undertake adequate measures for the aid of navigation on the Yangtse and its main tributary waterways.”

And in the following November the same body passed another resolution which reads:—

“That as a preliminary to the appointment by the Chinese Government of a Conservancy Board to improve the navigation of the Yangtse, as recommended in the Resolution passed at last year's Conference, this Conference would strongly urge the nomination of a technical commission to make preliminary study of the whole question with a view to formulating general proposals as to the lines on which this work should be taken in hand.”

As a result of, and in connection with, these two resolutions a certain amount of propaganda was conducted but there was no definite response from the Government until the spring of 1921, when the National Conservancy Board delegated its Principal Technical Expert, Mr. Yang Pao Ling, to make a preliminary investigation of conditions. After consulting Sir Francis A. Aglen, the Inspector General of Customs, Mr. Yang left Peking for Shanghai. By official instructions the Coast Inspector of the Customs, Mr. T. J. Eldridge, put at his disposal the extensive data as to navigation conditions collected by the Customs Marine Department and its River Inspectorates, and similarly, Mr. H. von Heidenstam, Engineer-in-Chief of the Whangpoo Conservancy Board, provided him with his various river engineering reports on the Lower Yangtse, and on the Yangtse conservancy question. Mr. Yang Pao Ling also consulted the Commissioner of Customs, the Commissioner of Foreign Affairs, and Mr. Chang Chien, the industrial leader of Nantung-

THE YANGTSE RIVER COMMISSION.

President : Kao Ling Wei

Vice-Presidents : Sun Pao Chi

Chang Chien

Chiang Tien Tu

THE TECHNICAL COMMITTEE.

Chairman : Chen Shih Li

Members : Yang, Pao Ling

T. J. Eldridge

H. von Heidenstam

H. van der Veen

Shen Ping Huang

Chow Zian Yien

Secretary : T. C. Shoung

Consulting Engineer : F. Palmer

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The
Technical Committee
of
The Yangtse River Commission



First Annual Report

Peking, January 1923.



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