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## **September 2009 Quarterly Activities Report**

### **HIGHLIGHTS**

- **Lake Chandler Potash Project – Option to Purchase exercised, scoping study commenced** – testwork to date shows encouraging results. Progress on testing has led to the decision to exercise the Option to Purchase. The issue of share consideration to the vendors is subject to shareholder approval. Additional ground in the area has been pegged and exploration to add to resources is planned
- **New targets defined at Florence Bore, Cloncurry district** – high values of copper and gold in rock samples returned - further follow-up work in progress
- **Booubyjan Joint Venture – drilling program completed** – 5 holes for 2681m completed

### **OVERVIEW**

During the quarter the Company has undertaken the following activities:-

- Continued bench scale testing of washing and slurring characteristics of the Lake Chandler ore
- Completed first and second rounds of bench-scale testing of the ammonia leach process at Lake Chandler Potash Project
- Continued mapping, soil and rock sampling at Florence Creek in the Cloncurry district
- Completed drilling of 5 holes in the Booubyjan Project area
- Commenced mapping, soil and rock sampling in the Oxley Creek/Pentland area

During the quarter the Company has undertaken the following capital raising and corporate activities:-

- Completed a Non-renounceable Entitlements Offer to share holders at 5 cents per share to raise \$1.025M (shares allotted 9 July 2009)
- Completed a bonus options issue to shareholders (Options allotted 30 July 2009)

No exploration activities have been carried out at Lake Monduran, Westwood and Esk Trough Projects.

## **Entitlements Offer**

On 5 June 2009 the Company announced a 1 for 2 Non-renounceable Entitlements Offer of fully paid ordinary ActivEX shares to shareholders at an issue price of \$0.05 per new share to raise approximately \$1.025M. The offer, totalling 20,494,361 new shares was fully underwritten by Veritas Securities Limited.

The offer closed on 1 July 2009 and the shortfall of 10,470,138 was notified to the underwriter on 6 July. New shares commenced trading on 10 July 2009.

## **Bonus Options Issue**

In conjunction with the entitlements issue the Company announced its intention to issue bonus options to shareholders on the basis of 1 option for 5 shares held, exercisable on 31 July 2010. The Prospectus was delivered to shareholders on 13 July and options were allotted on 30 July 2009 and commenced trading on 1 August 2009.

## **Cash**

At the end of the quarter the Company held \$873,493 in cash and receivables.

## **LAKE CHANDLER**

*(Lake Chandler M77/22 (W.A.) - ActivEX six month option to purchase 100%)*

Work on the washing, sedimentation and leach process tests continued during the quarter. Encouraging results of the first round of tests has lead to follow up larger scale test-work to fine tune the leach parameters and to establish the most effective solid-liquid separation techniques. These tests were completed in September and the results were received in early October. The results are being reviewed and information is being fed into the scoping study which commenced in early October.

### **Sedimentation testwork**

A series of preliminary washing/settling tests has been undertaken to confirm that soluble salts (sodium chloride and magnesium sulphate) in the Lake Chandler alunite can be efficiently washed from the ore prior to its being fed to a leach circuit. If the ore is not pre-washed these salts contaminate the final products.

The tests indicate that slurries of Lake Chandler ore flocculate and settle well with commercially available flocculants thereby allowing removal of the soluble salts with a reasonable water consumption. Further washing/settling tests, to refine this part of the process flowsheet, have been carried out including modelling of the CCD (counter current decantation) circuit. Several scenarios have been studied with a minimum of two stages required. The CCD modelling is now aimed at reducing the demand for water in the circuit and the use of centrifuges and paste thickeners are being investigated.

### **Water Supply**

This is of particular importance to the Lake Chandler process flowsheet as fresh water is scarce in the location although water may be able to be purchased from the Goldfields grid. While there are existing abundant supplies of saline groundwater in the area they usually contain salinity levels of 15-35,000 parts per million dissolved salts. Production of potable or process water from these supplies could significantly add to both capital and operational expenses. The process design currently incorporates a reverse osmosis (RO) plant to treat saline water.

The RO requirements will be determined by the outcome of modelling of the washing circuit and other plant demands.

ActivEX commissioned Rockwater Pty Ltd to carry out a hydro-geological survey of the district within reasonable distance of the Lake Chandler site. The survey confirmed the likelihood of aquifers containing water reserves for the project. The aquifer targets would require drill testing to determine the salinity and quantities of water available.

### **Leach testwork**

Initial leach tests conducted by SGS Lakefield Orestest Pty Ltd in Perth on alunite samples from Lake Chandler indicate that approximately 90% of the potash in Lake Chandler alunite can be successfully dissolved under relatively mild conditions (approximately 60 minutes leach time at 160°C, 1000-2000kPa) using ammonia as the leachant in a standard autoclave system.

In addition, an unexpected favourable outcome of the testwork was that under these controlled conditions over 90% of the potassium leached from the ore will report to the insoluble leach residue and can thereby be readily separated from the ammonium sulphate (SOA) component which remains in the leach liquor. The precipitated potassium sulphate (SOP) is easily dissolved away from the residue insolubles (alumina, etc) with hot water and can be crystallised as pure potassium sulphate by cooling.

The process is elegant in that the soluble components resulting from the leach process are potassium sulphate (SOP) and ammonium sulphate (SOA), both of which are valuable fertilizer components. A fertilizer blend of the two (SOP + SOA) can be simply prepared and could be marketed directly by the Company.

The alumina values in the ore remain in the leach residue (45-50% Al<sub>2</sub>O<sub>3</sub>) hence are effectively separated from the potash component of the ore. The alumina precipitate appears to have been activated in the leaching process and the Company believes this can be readily treated to produce high grade alumina or aluminium salts for subsequent sale.

### **Environmental Surveys**

Preliminary surveys, including invertebrate, land unit and vegetation mapping, have been commenced during the quarter. These surveys are required to be done in winter and spring and have been commissioned so that they do not delay permitting processes next year. While the final reports are yet to be received no significant issues have been identified to date. Initial meetings with the Department of Environment and Conservation have been held.

### **Stakeholder Liaison**

Meetings have also been held with various other stakeholders such as shire councils, local businesses, water and power providers. The meetings have shown considerable support for the project in the area.

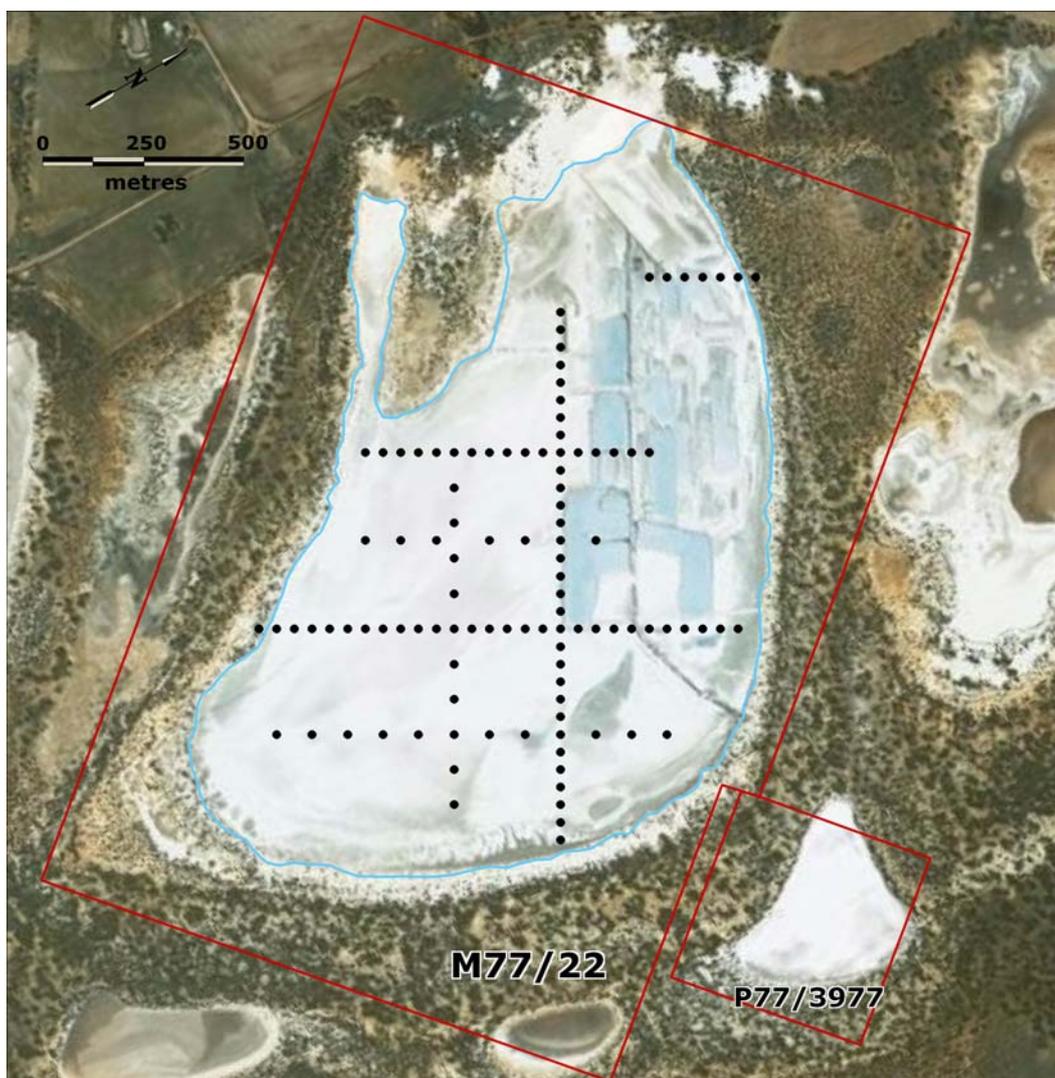
### **Scoping Study**

As a result of the favourable preliminary washing/settling and leach tests ActivEX has embarked on a scoping study of the Lake Chandler Potash Project. Engineering consultants Lycopodium have been appointed to carry out the scoping study in conjunction with ActivEX staff. The study will be at throughput of 150,000 to 300,000 tonnes per annum. At this throughput the project has a life of 20 to 30 years.

## Resources

During the quarter ActivEX has applied for additional ground in the Lake Chandler area. P77/3977 was pegged adjacent to the Lake Chandler Mining Lease (see Figure 1 below).

This prospecting licence covers Reward Lake, a smaller lake adjacent to Lake Chandler which is known to contain potash of similar grades to the Lake Chandler deposit but no modern testing of the Reward Lake has been carried out. Testing should be carried out in conjunction with further delineation drilling at Lake Chandler scheduled for early 2010.



*Figure 1: Google map of Lake Chandler showing leases and previous drill locations*

## Option to Purchase

In October the Company announced that it had exercised the Option to Purchase agreement with vendors Michael Ruane and RC Sadleir Pty Ltd. The option will be exercised by the issue of 8.5 million fully paid AIV ordinary shares to the vendors. The issue of the shares is subject to shareholder approval which will be sought at the Company's Annual General Meeting in November 2009.

## BOOUBYJAN

(Booubyjan Joint Venture EPM 14476, 14979 - ActivEX 49%, Minotaur 51% and Mitsubishi Corporation and Mitsubishi Materials Corporation option to earn 24%)

Drilling at the Booubyjan prospect within EPM 14476 in southern Queensland began on 20 May 2009 and was completed on 17 August 2009. Five holes were completed for a total of 2681 metres of core.

The drill targets are magnetic pipe-like bodies interpreted to be related to zones of potassic alteration (magnetite rich) which could host porphyry style copper gold mineralisation.

All holes have intersected weak chalcopyrite (copper) mineralisation over intervals of up to 32 metres with associated anomalous gold values.

Table 1: 2009 Drilling Program (note in order drilled)

Hole ID	Total Depth (m)	Easting (AMG84)	Northing (AMG84)	Azimuth (grid)	Dip
ABJ013	720.0	403260	7132369	160	-70
ABJ015	440.0	404120	7131283	315	-60
ABJ017	348.0	401115	7133359	240	-65
ABJ018	249.3	401476	7133601	010	-60
ABJ014	923.8	403278	7132329	115	-70

Drilling intersected broad zones of magnetite which confirmed the source of the magnetic anomalies however much of the magnetite appeared to be primary with only weak associated copper mineralisation. As a result the program was amended to five holes, the last hole being a deep test of the centre of the interpreted porphyry system.

Most holes intersected weak copper and gold mineralisation, with some higher grades over small (~5m) intervals. Selected intervals (based on visual estimates) were sent to the laboratory for analysis and all results are included in Table 2 below. No significant visible mineralisation was noted in ABJ013 and no assays have been submitted to date.

Table 2: Intervals submitted to laboratory for analysis

Hole ID	From	To	Interval	Average Cu (%)	Average Au (g/t)
ABJ015	270	295	25	0.08	0.03
ABJ015	395	425	30	0.07	0.017
ABJ017	45	60	15	0.09	0.008
ABJ017	119	136	17	0.12	0.005
<i>including</i>	125	136	11	0.17	0.006
ABJ017	190	215	25	0.03	0.005
ABJ017	235	246	11	0.05	0.006
ABJ018	105	120	15	0.04	0.006
ABJ014	221	226	5	0.34	0.116
ABJ014	333	365	32	0.10	0.037
<i>including</i>	338	346	8	0.21	0.075
ABJ014	380	385	5	0.10	0.282
<i>Including</i>	381	384	3	0.10	0.420
ABJ014	435	440	5	0.16	0.096
ABJ014	595	603	8	0.24	0.035

Drilling of magnetic targets in this program has been largely unsuccessful, with the majority of holes intersecting substantial primary magnetite. Alteration styles were again low temperature phyllic and propylitic, suggesting that we have not yet identified the potassic alteration zone representing the centre of the system. However, drill hole ABJ014, in the Whitehorse area, has intersected sections of breccia with a strong propylitic alteration overprint and weak associated copper mineralisation. The breccias show evidence of milling showing that considerable fluid flow has occurred in the section. Several pulses of silica veining and flooding have been identified, pre and post brecciation, suggesting a quartz vein system maybe developed in the Whitehorse area which has not been previously identified.

ActivEX has engaged a consultant geologist with extensive experience in porphyry systems to review the information to date, prior to any further exploration activity.

## **CLONCURRY PROJECTS**

*(EPM 15285, EPM Applications 17313, 17454, 17648, 17652, 17653, 17805, 18053 and 18073 - ActivEX 100%)*

An extensive soil sampling program has been completed in the Green Valley and Florence Bore North area with a total of 615 traditional soil samples and Portable XRF (Niton) samples being recorded. Rock chip sampling (selected grab samples) was also carried out during the program and a total of 67 samples collected from mullock and outcrops.

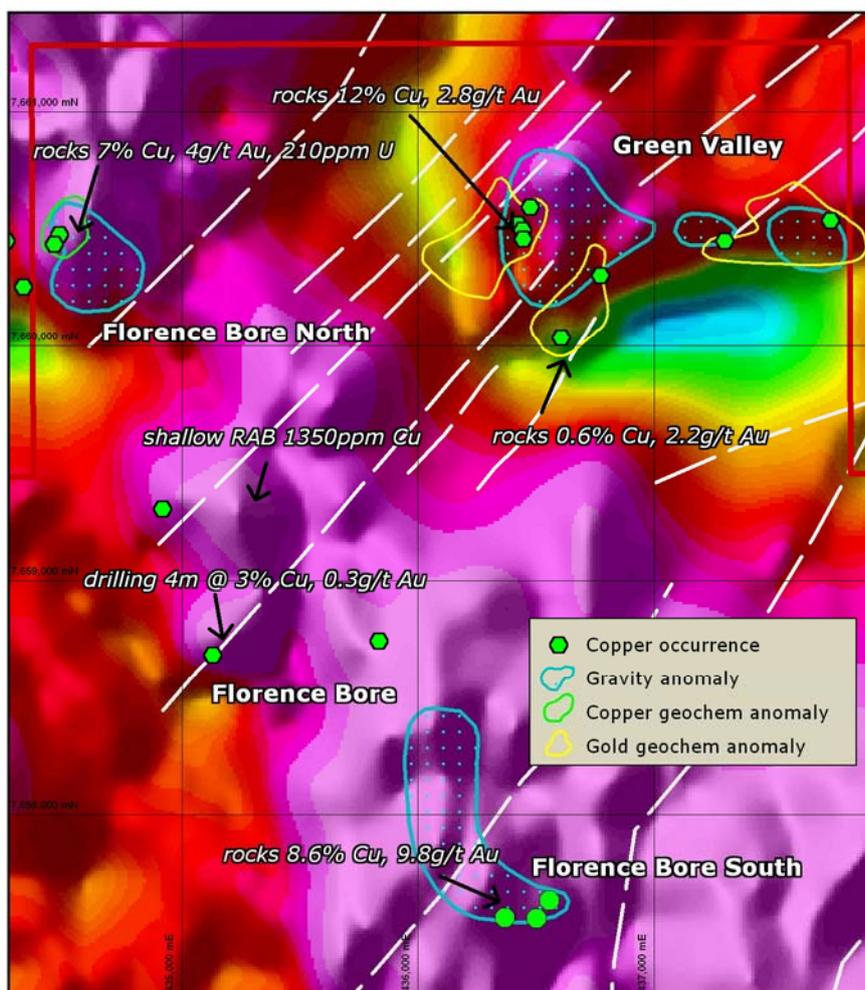
At **Green Valley**, copper/gold (in soil) anomalous zones between 500 and 700 metres long, have been defined around historic copper workings and are associated with coincident magnetic and gravity anomalies. In particular, the gold geochemistry outlines three anomalies associated with the nose of a folded jaspilite unit where significant structural dislocation has occurred. Copper shows a similar distribution to gold but is less well defined. This setting is similar to that at Starra (60km south) which is known for its high gold content and high grade ore bodies.

Structural mapping also shows links between this area and the Florence Bore prospect where previous shallow drilling (the only holes drilled in the area) has intersected significant mineralisation including 4m @ 3% Cu and 0.3g/t Au. Drilling was restricted to the Florence Bore magnetic anomaly despite other magnetic anomalies with associated copper being identified. Much of the Florence Bore area and the zone between Florence Bore and Green Valley is masked by transported soils and the alluvial flats of Florence Creek.

Prospecting work by the Company has identified a new target at **Florence Bore North** which lies 2km north of the Florence Bore. Historic copper workings found in the area are closely associated with a gravity anomaly and a complex magnetic feature. Rock chip samples collected from workings in the area have returned high values of copper, gold and uranium from visibly mineralised samples. Peak values returned from the sampling were 7.7% copper, 4g/t gold and 210ppm uranium.

Soil sampling using a Portable XRF analyser has identified a 270m long anomalous copper zone which is surrounded by a blanket of transported soils to the north and south. The anomalous zone is located at the overlap of the gravity high and magnetic high. The magnetic anomaly extends for 1km further to the north.

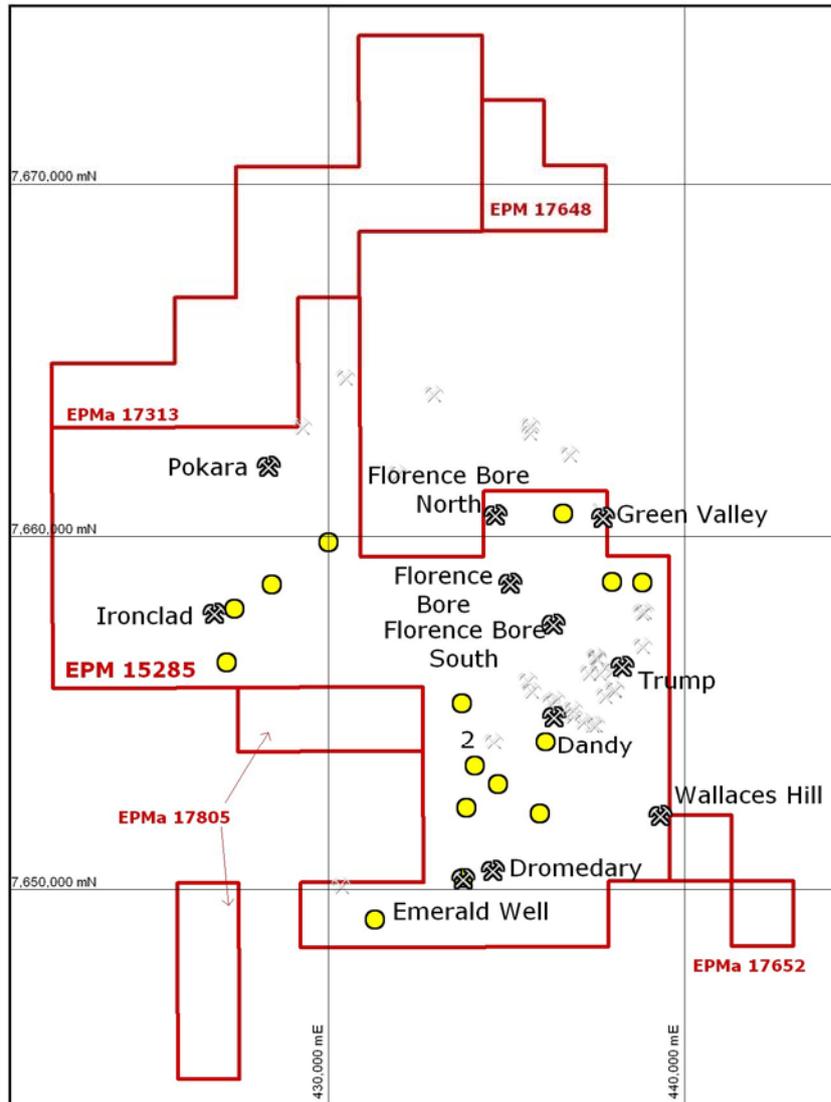
At **Florence Bore South**, a new target also identified by ActivEX during the recent program consists of historic copper workings which have returned high gold values. Peak values from rock chip samples of 8.6% copper and 9.8 g/t gold were returned from the workings hosted by skarns associated with limestones. These samples were collected from a zone of anomalous gravity which lies 1.5km south of Florence Bore. Further detailed gravity and magnetic surveys are in progress in this area which has generally poor outcrop.



**Figure 2:** Florence Bore – Green Valley area showing copper and gold soil anomalies and gravity anomalies over aeromagnetic image.

Further follow-up prospecting of **Anomaly 2/Dandy Extended** area has been undertaken and is continuing. In this area, work by ActivEX earlier in the year identified high molybdenum values in rock samples up to 956ppm Mo. Sampling using a Portable XRF analyser has traced the anomalous molybdenum values within a structure over 450m where it is then covered by transported soils. Molybdenum values in rock samples up to 0.4% Mo (4000ppm Mo) have been recorded.

This area has been sampled by previous explorers concentrating on anomalous copper associated with outcropping skarns. Further detailed sampling by ActivEX is aimed at defining the relationship between the molybdenum rich structure, copper anomalies and the known skarns.



**Figure 3:** Florence Creek EPM 15285 showing prospect locations.

## PROSPECT CREEK

*(EPM 14121, and 15814 - ActivEX 100%)*

Work has commenced on the target generation program supported by the Queensland Government as part of the 2009 Smart Mining – Future Prosperity Program, Industry Network Initiative. The funding (on a dollar-for-dollar basis) for \$39,000 is earmarked for target generation for porphyry targets in the Prospect Creek Area. A pilot study of soil samples taken from the area has been completed using a Portable XRF Analyser (Niton). Results are being collated and interpreted to define the optimum procedure for soil sample testing in the area.

## PLANNED WORK PROGRAMS

Activities scheduled for the next six months:-

- **Lake Chandler** – completion of scoping study on Lake Chandler Project by year end
- **Boobyjan JV** – review of deep drilling program and all previous data
- **Florence Creek** – continued gravity and ground magnetic surveys in progress, XRF soil surveys in progress, working towards detailed drill targets for early 2010
- **Pentland** – detailed refinement of drill targets in preparation for drilling, magnetic interpretation, reconnaissance geology and soil sampling, **Nipple Breccia** and **Oxley Creek** areas
- **Lake Monduran** – ground magnetic surveys in the **Rosedale** area
- **Prospect Creek** – complete PIMA/soil surveys for target generation study

For further information contact Managing Director Doug Young or Company Secretary Paul Crawford on (07) 3236-4188 or visit our website at [www.activex.com.au](http://www.activex.com.au) .

*The information in this report that relates to exploration results is based on information compiled by Mr D. I. Young, who is a Fellow of the Australian Institute of Geoscientists and a full-time employee of ActivEX Limited. Mr Young has sufficient experience relevant to the styles of mineralisation and types of deposit under consideration and the activities which he is undertaking to qualify as a Competent Person as defined by the most recent Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves. Mr Young consents to the inclusion of his name in this report and to the issue of this report in the form and context in which it appears.*