RIO TINTO PLC Form 11-K June 29, 2010

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SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 11-K

(Mark One)

x ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2009

or

o TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to ____.

Commission file number 001-10533

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

U.S. BORAX INC. 401(k) PLAN FOR HOURLY EMPLOYEES

B. Name of the issuer of the securities held pursuant to the plan and the address of its principal executive office:

Rio Tinto plc 5 Aldermanbury Square London EC2V 7HR United Kingdom

U.S. BORAX INC. 401(k) PLAN FOR HOURLY EMPLOYEES

Financial Statements and Supplemental Schedule

As of December 31, 2009 and 2008 and for the Year Ended December 31, 2009

Together with Report of Independent Registered Public Accounting Firm

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All other schedules required by Section 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 have been omitted because they are not applicable to the U.S. Borax Inc. 401(k) Plan for Hourly Employees.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Rio Tinto America Benefits Governance Committee U.S. Borax Inc. 401(k) Plan for Hourly Employees

We have audited the accompanying statements of assets available for benefits of the U.S. Borax Inc. 401(k) Plan for Hourly Employees (the Plan) as of December 31, 2009 and 2008, and the related statement of changes in assets available for benefits for the year ended December 31, 2009. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the assets available for benefits of the U.S. Borax Inc. 401(k) Plan for Hourly Employees as of December 31, 2009 and 2008, and the changes in assets available for benefits for the year ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

Our audits of the financial statements were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule of Assets (Held at End of Year) as of December 31, 2009 is presented for the purpose of additional analysis and is not a required part of the basic financial statements, but is supplementary information required by the United States Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental schedule is the responsibility of the Plan's management and has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ Tanner LC Salt Lake City, Utah June 29, 2010

U.S. BORAX INC. 401(K) PLAN FOR HOURLY EMPLOYEES Statements of Assets Available for Benefits

\$37,830,374

December 31,

\$33,855,352

2009 2008 Assets Investments (at fair value) \$37,251,306 \$32,432,468 Total assets 37,251,306 32,432,468 Assets available for benefits, at fair value - investments \$37,251,306 \$32,432,468 Adjustment from fair value to contract value for fully benefit-responsive investment contracts 579,068 1,422,884

See accompanying notes to financial 3 statements.

Assets available for benefits

U.S. BORAX INC. 401(K) PLAN FOR HOURLY EMPLOYEES Statement of Changes in Assets Available for Benefits

Year Ended December 31, 2009

Additions to assets attributed to:	
Contributions:	
Employee	\$1,756,576
Employer	284,260
Total contributions	2,040,836
Net investment income:	
Net appreciation in fair value of investments	5,443,593
Interest and dividends	1,088,860
Total investment income, net	6,532,453
Total additions	8,573,289
Deductions from assets attributed to:	
Transfers to the Rio Tinto America Inc. Savings Plan	213,578
Benefits paid to participants	4,384,689
Total deductions	4,598,267
Net increase in assets available for benefits	3,975,022
Assets available for benefits:	
Beginning of year	33,855,352
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End of year	\$37,830,374

See accompanying notes to financial 4 statements.

Notes to Financial Statements

1. Description of the Plan

The following brief description of the U.S. Borax Inc. 401(k) Plan for Hourly Employees (the Plan) is provided for general information purposes only. Participants should refer to the plan document and summary plan description for more complete information.

General

The Plan is a defined contribution plan covering all full-time hourly employees who are represented by or included in a collective bargaining unit of U.S. Borax Inc. and its affiliates (collectively, the Company or the Employer), as defined in the plan document. U.S. Borax Inc. is an indirect, wholly-owned subsidiary of Rio Tinto America Inc., which is an indirect, wholly-owned subsidiary of Rio Tinto plc (the Parent). The Plan is intended to be a qualified retirement plan under the Internal Revenue Code (IRC) and is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), as amended.

Eligible employees who are represented by Local 30-International Longshoremen's and Warehousemen's Union (Boron hourly employees) can participate in the Plan immediately after completing sixty days of continuous service.

Eligible employees who are represented by Local 20A-International Longshoremen's and Warehousemen's Union (Wilmington hourly employees) can participate in the Plan immediately upon employment.

Contributions

Each year, participants may elect, under a salary reduction agreement, to contribute to the Plan. Contributions are limited by the IRC, which established a maximum contribution of \$16,500 for the year ended December 31, 2009. Participant contributions are recorded in the period during which the amounts are withheld from participant earnings. Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans.

Boron hourly employees can contribute an amount not less than 1% and not more than 30% of their eligible compensation on a before-tax basis through payroll deductions. Participants may also elect to make an after-tax contribution not less than 1% and not more than 30% of their eligible compensation. Total before-tax and after-tax contributions cannot exceed 30% of each participant's eligible compensation.

The Company matches the Boron participants' contributions to the Plan at 30%, up to the first 5% of their eligible compensation. Matching contributions are recorded on the date the related participant contributions are withheld.

Notes to Financial Statements
Continued

1. Description of the Plan Continued

Contributions – Continued

Wilmington hourly employees can contribute an amount not less than 1% and not more than 15% of their eligible compensation on a before-tax basis through payroll deductions. Participants may also elect to make an after-tax contribution not less than 1% and not more than 15% of their eligible compensation. Total before-tax and after-tax contributions cannot exceed 15% of each participant's eligible compensation.

The Company matches the Wilmington participants' contributions to the Plan at 35%, up to the first 5% of their eligible compensation. Matching contributions are recorded on the date the related participant contributions are withheld.

Participant Accounts

Individual accounts are maintained for each Plan participant. Each participant's account is credited with the participant's contributions, the Company's matching contributions, and an allocation of the Plan's earnings, and is charged with withdrawals and an allocation of the Plan's losses and administrative expenses. Allocations are based on participant earnings or account balances, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Participant-Directed Options for Investments

Participants direct the investment of their contributions and the Company matching contributions into various investment options offered by the Plan. Investment options include mutual funds, a common/collective trust, common stock of the Parent in the form of American Depositary Receipts (ADRs), and a stable value fund consisting of a money market fund, a common/collective trust and synthetic guaranteed investment contracts.

Vesting

Participants are immediately vested in their contributions and Company matching contributions plus actual earnings thereon.

Payment of Benefits

On termination of service due to death, disability, or retirement, participants or their beneficiaries may elect to receive lump-sum distributions or annual, semi-annual, quarterly or monthly installments in amounts equal to the value of the participants' vested interests in their accounts. Under certain circumstances, participants may withdraw their contributions prior to the occurrence of these

events.

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Notes to Financial Statements
Continued

 Description of the Plan Continued **Transfers**

Along with the Plan, the Company employees also participate in another 401(k) plan that covers employees not represented by a collective bargaining unit (union). If employees are changed from union to non-union status during the year, their account balances are transferred from this Plan to the non-union plan. For the year ended December 31, 2009, transfers to the Rio Tinto America Inc. 401(k) Savings Plan and Investment Partnership Plan totaled \$213,578.

2. Summary of Significant Accounting Policies

Basis of Presentation

The financial statements of the Plan have been prepared on the accrual basis of accounting.

Use of Estimates

The preparation of the Plan's financial statements in conformity with U.S. generally accepted accounting principles requires Plan management to make estimates and assumptions that affect the reported amounts of assets available for benefits at the date of the financial statements, the changes in assets available for benefits during the reporting period and, when applicable, the disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Financial Accounting Standards Board Staff Position

The Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 962 (formerly known as FASB staff position No. AAG INV-1 and Statement of Position (SOP) 94-4-1, Reporting of Fully Benefit-Responsive Investment Contracts Held by Certain Investment Companies Subject to the AICPA Investment Company Guide and Defined-Contribution Health and Welfare and Pension Plans (the FSP)), requires investment contracts held by a defined-contribution plan to be reported at fair value. However, contract value is the relevant measurement attribute for that portion of the assets available for benefits of a defined-contribution plan attributable to fully benefit-responsive investment contracts because contract value is the amount participants would receive if they were to initiate permitted transactions under the terms of the plan. The Statement of Assets Available for Benefits presents the fair value of the investment contracts as well as the adjustment of the fully benefit-responsive investment contracts from fair value to contract value. The Statement of Changes in Assets Available for Benefits is prepared on a contract value basis.

Notes to Financial Statements
Continued

 Summary of Significant Accounting Policies Continued

Risks and Uncertainties

The Plan provides for investments in securities that are exposed to various risks, such as interest rate, currency exchange rate, credit and overall market fluctuation. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the Statements of Assets Available for Benefits.

Investment Valuation and Income Recognition

The Plan's investments in mutual funds are valued at quoted market prices, which represent the net asset value of units held by the Plan at year end. Plan investments in common stock are stated at fair value based on quoted market prices. The Plan's interest in the Dwight Stable Value Fund is valued generally based upon the per-share net asset values of the underlying securities. Participant loans are valued at their outstanding balances, which approximate fair value.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on an accrual basis. Dividends are recorded on the ex-dividend date.

The net appreciation in the fair value of investments, which includes realized gains and unrealized appreciation on those investments, is presented in the Statement of Changes in Assets Available for Benefits of the Plan, and totaled \$5,443,593 for the year ended December 31, 2009.

Payments of Benefits

Benefits are recorded when paid by the Plan.

Administrative Expenses

The Company pays the majority of costs and expenses incurred in administering the Plan. The Company provides accounting and other services for the Plan at no cost to the Plan.

The Plan has several fund managers that manage the investments held by the Plan. Fees for investment fund management services are included as a reduction of the return earned on each fund. In addition, during the year ended December 31, 2009, the Company paid all investment consulting fees related to these investment funds.

Transaction costs associated with the purchase or sale of Rio Tinto plc ADRs are paid by the participants.

Notes to Financial Statements
Continued

 Summary of Significant Accounting Policies Continued

Subsequent Events

The Plan has evaluated events occurring between the end of its most recent fiscal year and the date the financial statements were available for issue.

Participant Loans

Participants may borrow from the Plan up to a maximum of \$50,000 or 50% of their account balances, whichever is less. Each loan is secured by the balance in the participant's account and bears interest at a rate commensurate with prevailing rates at the time funds are borrowed, as determined by the Plan Administrator. Loans originated during the year ended December 31, 2009 have interest rates set at prime plus one percent, and are reset quarterly.

3. Recent
Accounting
Pronouncements

In September 2009, the FASB issued ASU No. 2009-12, Fair Value Measurements and Disclosures (Topic 820): Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent), which provides guidance regarding fair value measurement of investments in certain entities that calculate net asset value per share (or its equivalent). This update applies to investments that do not have a readily determinable fair value and are held by an entity that is required to report investment assets at fair value. This update creates a practical expedient to measure the fair value of such investments on the basis of the net asset value per share (or its equivalent) and requires disclosures by major category of investments about the attributes of investments, such as the nature of any restrictions on the investor's ability to redeem its investments at the measurement date, any unfunded commitments, and the investment strategies of the investees. The Plan's adoption of this update did not have a material effect on the Plan's financial statements.

Date: October 29, 2010

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

/s/ Kevin S. McCarthy

Name: Kevin S. McCarthy

Title: Chairman of the Board of Directors,

President and Chief Executive Officer

Date: October 29, 2010

/s/ Terry A. Hart

Name: Terry A. Hart

Title: Chief Financial Officer and Treasurer

Date: October 29, 2010