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# **Rio Tinto Exploration India Limited**

(Previously known as ACC Rio Tinto Exploration Ltd.)

A member of the Rio Tinto Group

Final Relinquishment Report for Exploration of the Sundargarh Reconnaissance Permit Orissa, India

### Report No 27732

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Date:

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Submitted:

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#### **SUMMARY**

This is the Final Relinquishment report on the exploration for diamond and other mineral commodities carried out on the Sundargarh Reconnaissance Permit (Sundargarh RP), executed on 29/04/2005, located in Sundargarh district for the period of April, 2005 to December 2007, in compliance of Section 16 of the Mineral Concessions Rules, 1961.

As per the requirements of the MMRD Act and as per a letter addressed to the DMG Orissa dated 27<sup>th</sup> April 2007, about 50% of the permit has been relinquished with only 878 km² of the original 1760 km² permit area being retained. Regional exploration completed within the Sundargarh reconnaissance permit in Sundargarh districts of Orissa has not discovered any kimberlites or other precious or base metal mineralization; as a result the balance area was fully relinquished on 11 December 2007, 4 months prior to the 3-year tenure of the RP. (Refer to plan NDbg0766).

Exploration completed including over 61 heavy mineral gravel samples and 51 – 80# stream sediment geochemical samples collected at a nominal spacing of one sample per 7 to 25 square kilometres providing for regional coverage over 1760km² of the permit area. Approximately 854 heavy mineral grains recovered from the gravel samples were subsequently analysed for major oxide elements by manual and automated scanning electron microprobe. Mineral chemistries of the indicators are largely non kimberlitic with only a portion of the indicators returning indeterminate chemistries overlapping into the kimberlite / Lamproite fields. No discrete prospect areas have been defined from these indicators. About 78 line kilometres of ground geophysics has been done on the various anomalies. The generated anomalies could not reveal any possible kimberlitic signature.

Given the low tenor of indicator mineral anomalism and consequent low prospectivity for kimberlite / Lamproite occurrences and the lack of evidence for precious or base metal mineralization, airborne geophysical surveys over this permit area are not warranted and have not been undertaken.

#### INTRODUCTION

This is the fifth biannual report detailing all exploration completed by Rio Tinto Exploration India Limited within the 1760 km<sup>2</sup> Sundargarh reconnaissance permit in the first two and a half years of operation. Summaries of exploration activities are detailed in table 1. This report compliments previous biannual report including:

- ACC Rio Tinto Exploration Limited (October 2005); 1st Bi-annual Progress Report for Exploration of the Sundargarh Reconnaissance Permits For the period 29/04/2005 to 29/10/2005.
- Rio Tinto Exploration India Limited (April 2006); 2<sup>nd</sup> Bi-annual Progress Report for Exploration of the Sundargarh Reconnaissance Permits For the period 29/10/2005 to 29/04/2006.

- Rio Tinto Exploration India Limited (October 2006); 3<sup>rd</sup> Bi-annual Progress Report for Exploration of the Sundargarh Reconnaissance Permits For the period 29/04/2006 to 29/10/2006.
- Rio Tinto Exploration India Limited (April 2007); 4<sup>th</sup> Bi-annual Progress Report for Exploration of the Sundargarh Reconnaissance Permits For the period 29/10/2006 to 29/04/2007.
- Rio Tinto Exploration India Limited (October 2007); 5<sup>th</sup> Bi-annual Progress Report for Exploration of the Sundargarh Reconnaissance Permits For the period 29/04/2007 to 29/10/2007.

The above reports have been submitted with the relevant government institutions and are further archived with RTEI in Bangalore.

Sundargarh RP was granted to RTEI on the 28<sup>th</sup> October 2004 and was consequently executed on 29<sup>th</sup> April 2005.

Regional reconnaissance surveys including stream gravel indicator mineral sampling, stream sediment geochemistry sampling, mapping and remote sensed imagery interpretation have been completed over the entire RP area. A total of 51 indicator mineral gravel samples returned numerous non-magnetic heavy minerals of which approximately 854 grains were probed for their major element chemistries by scanning electron microprobe. Despite recovering abundant heavy minerals, no diamonds were observed in the heavy mineral concentrates Analysis results for a suite 41 precious, base and trace metals for 51 -80# stream sediment samples collected at each of the reconnaissance heavy mineral gravel sample sites do not reveal any anomalous areas.

Name (District)	Granted RP Area km²	Date of Execution	Heavy Mineral Samples	Heavy Mineral Chemistry (grains)	Geochemical Samples	Geophysics	Drilling
	Granted						
Sundargarh	1760	29 April	61 Gravel	854	51 stream	78 line	Nil
RP	Retained	2005	Samples			ground	-
	878				323 soil	magnetic survey	
	(District) Sundargarh	(District) RP Area km²  Granted  Sundargarh 1760  RP Retained	(District)  RP Area km²  Execution  Granted  Sundargarh  RP Retained	(District)  RP Area km²  Execution Mineral Samples  Granted  Sundargarh 1760 29 April 2005 8 Samples  RP Retained 878	(District) RP Area km² Execution Mineral Samples Chemistry (grains)  Granted Sundargarh 1760 29 April 2005 samples  RP Retained 878	(District) RP Area km² Execution Mineral Samples Chemistry (grains) Samples  Granted  Sundargarh RP Retained RP Retained 878	Company   Comp

Table 1: Summary of exploration completed by RTEI in the Sundargarh RP

#### 1 GEOMORPHOLOGY

The area exhibits diverse topography. It can be divided into

- a) The pediplained rolling granite gneiss country with the elevation varying between 200 300 m, which covers most of the tenement.
- b) Mounds of granite gneiss, occurring at times as tors/pediment rising between 450 650 m over the pediplains.

The drainage is regionally southward flowing and is controlled by the IB River, a main tributary to the Mahanadi River. Ib River flows SE-wards along the centre of the RP area into the Mahanadi River, occurring to the south of the RP area.

#### 2 REGIONAL GEOLOGY

The highly strained Chotanagpur Gneiss Complex dominates the area. It is structurally complex, being located on the north margin of the Bastar Craton, and is transacted by several regional fault and shear zones, all of early Proterozoic origin, representing strands of the Son-Narmada and Central Indian Shear Zones. The area is thought to represent the collision zone between the Bastar, Singhbhum and Bundelkhand Cratons, which developed in the early-mid Proterozoic. The major shear zones appear to be escape-type structures. They have been reactivated throughout geological time, most importantly in the Permian to Jurassic, when they to a large extent controlled the Gondwana basins.

The rock types in the area consist of granitoid ranging from tonalite to quartz diorite in composition. Geological Survey of India has mapped the area in 1: 50,000 scale. However, only a published map of 1: 250,000 scale was available for our reference. Enclaves of low-grade supracrustals are found within the granitoids. These include tremolite-chlorite schist, quartz-sericite schist, sericite-magnetite schist, talc-chlorite schist, garnetiferous quartz-biotite schist, etc. Different phases of dolerite dykes intrusions are also known from the area.

The regional trend of the rocks is approximately easterly. GSI geologists talk about three generations of folding in the rocks. F2 is most prominent amongst these and decides the regional trend. A number of E-W trending brittle-ductile sheared zones are also apparent in the area.

#### 3 RESULTS OF EXPLORATION

#### 3.1 Collation of Available Database

RTEI has purchased all the available 250,000 geological maps of the RP area from the Geological Survey of India (GSI) and topographic maps from the Survey of India (SOI). Other available and published geological, geophysical and land information data from GSI and other agencies are also being collated. All relevant data has been appropriately geo referenced and stored in digital format for incorporation into a GIS database of the area. Other data purchased and processed include the Landsat TM data, high resolution IRS panchromatic digital data and airborne magnetic survey data. In-house interpretation of these datasets

and images for geology, structure and regolith terrain mapping has helped in planning the exploration in RP area.

# 3.2 Reconnaissance Heavy Mineral (Gravel) Sampling

A total of 51 primary gravel samples were collected from third and higher order streams at a catchment size ranging from 40 to 150 square kilometres effectively sampling all large active drainage areas over the entire Sundargarh RP. 10 follow up gravel samples were collected from the anomalous catchments.

Each gravel sample comprised approximately 30kg -500kg of -1mm sand collected by hand from heavy mineral concentration zones within the active stream sediment bed load. All samples are processed at the company's specialist processing facilities by dense media separation, magnetic and heavy liquid techniques with mineral concentrates manually observed for any potential kimberlitic indicators.

The following table gives an analysis of observation and major oxide SEM mineral chemistries (table 2) of kimberlitic indicator minerals in first pass gravel samples collected from the RP area potentially kimberlitic indicator mineral grains were found from selected and probed heavy mineral grains.

Observation and Major oxide SEM mineral chemistries (table 2) identified only minor potentially kimberlitic chromite (37 grains in 10 samples) and no pyropes in any of the samples. Detailed SEM major oxide results for all heavy mineral indicators are listed in Appendix 2.

<u> </u>	Pyrope	Kimberlitic Chromite	Picro Ilmenite	Chrome Diopside
No of grains	0	37	. 0	0
Maximum grain count	0	11	0	0
No of positive samples	0	10	0	0
% of positive samples	0%	34%	0%	0%

Table 2: Summary of kimberlitic indicator minerals and positive samples based on major element oxide SEM data.

# 3.2.1 Heavy Mineral Sample Diamond Results

No diamonds were identified from observation of heavy mineral concentrates.

#### 3.2.2 Heavy Mineral Sample Garnet Results

Over 97 garnet grains from 10 samples were tested by probing; returning no kimberlitic pyrope in any of the samples. The garnets are dominated by grossular, Spessartine and almandine.

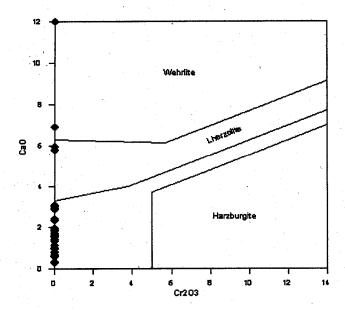


Figure 1: Garnet Sobolev plot (Cr2O3 vs CaO) for Garnet grains recovered from gravel samples in the Sundargarh RP.

# 3.2.3 Heavy Mineral Sample Chromite Results

Mineral chemistries of 358 probed chromite grains are predominantly consistent with a shallow magmatic paragenesis with one fractionated trend centred on approximately 40-60%  $\text{Cr}_2\text{O}_3$ . The population exhibit variable MgO of 0-14% with the higher MgO varieties overlapping into the fields of kimberlite-sourced chromites (figure 2). 37-chromite grains in 10 samples plot within this overlap area and are possibly kimberlite sourced.

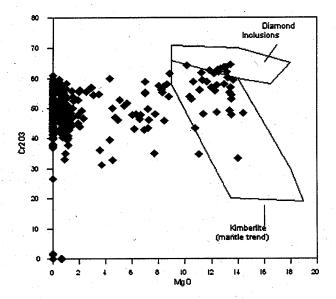


Figure 2: Gurney plot (MgO vs.  $\text{Cr}_2\text{O}_3$ ) for Chromite grains recovered from gravel samples in the Sundargarh RP.

## 3.2.4 Heavy Mineral Sample Ilmenite Results

Probing of 109 ilmenite grains in 16 samples did not identify any kimberlitic Picro ilmenite.

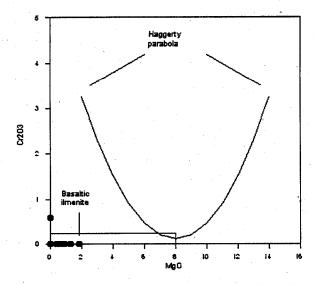


Figure 3: Gurney plot (MgO vs.  $Cr_2O_3$ ) for Ilmenite grains recovered from gravel samples in the Sundargarh RP. Note the samples do not identify any kimberlitic Picro Ilmenite.

# 3.2.5 Heavy Mineral Sample Chrome Diopside Results

No chrome Diopside was identified from the observation of heavy mineral concentrates.

Results to the follow up gravel samples do not reveal presence of any indicators in the heavy mineral concentrates. The details can be seen in Appendix 1

# 3.3 Geochemical Exploration:

51-stream sediment and 323 soil samples were collected from 2<sup>nd</sup> and 3<sup>rd</sup> order streams and from the identified targets by airborne geophysical data purchased from Orissa government respectively within the RP area. Each sample consisted of approximately 100gm of –80# (-0.180mm) silt collected for the analysis of a suite of lithophile, chalcophile, precious metals and kimberlitic compatible and incompatible elements by ICP-OES and ICP-MS techniques. Elements analysed and their detection limits for each are as follows: Ag (0.1 ppm); Al (10 ppm); As (0.5 ppm); Ba (10 ppm); Ca (10 ppm); Cd (0.1 ppm); Co (2 ppm); Cr (2 ppm); Cu (2 ppm); Bi (0.1 ppm); Fe (100 ppm); K (10 ppm); Mg (10 ppm); Mn (5 ppm); Mo (0.1 ppm); Na (10 ppm); Nb (0.2 ppm); Ni (2 ppm); P (5 ppm); Pb (0.5 ppm); Sb (0.5 ppm); Sr (2 ppm); Ta (1ppm) Th (20 ppm); Ti (10 ppm); U (0.02 ppm); V (2 ppm); W (0.1 ppm); Zn (2 ppm); Zr (10 ppm).

# 3.3.1 Stream Sediment Geochemical Results

51-stream sediment samples were collected from 2<sup>nd</sup> and 3<sup>rd</sup> order streams providing complete coverage of all active drainages within the RP Each sample consisted of approximately 100gm of –80# (-0.180mm) silt collected at each gravel sample site from the active streambed in the centre or lowest part of the stream for analysis of a suite of lithophile, chalcophile, precious metals and kimberlitic compatible and incompatible elements.

Stream sediment geochemistry indicates no potential for precious and base metal mineralization. Stream sediment sample locations are given in Plan NDbg0769. Summary statistics of stream sediment results are given in table 3. Complete data including sample locations and assay results are listed in Appendix 3.

	Ag	Al %	As ppm	Au ppb	Ba ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Fe %
	ppm	5.0	3.4	0.0	406	1.3	1.0	0.0	167.3	6.3	36.7	0.0	17.3	3.5
Mean	0.0					0.6	0.7	0.0	84.7	6.0	35.0	0.0	13.0	3.1
Median	0.0	5.3	2.5	0.0	433								12.0	1.7
Mode	0.0	6.2	2.0	0.0	558	0.4	0.1	0.0	101.0	0.0	30.0	0.0	12.0	1.7
Standard	0.0	2.1	2.5	0.0	171	1.5	1.0	0.0	282.1	6.1	16.5	0.0	11.6	1.6
Dev	0.0		-		80	0.2	0.1	0.0	29.1	0.0	10.0	0.0	5.0	1.2
Minimum	0.0	0.9	0.0	0.0							85.0	0.0	71.0	7.3
Maximum	0.0	8.9	11.5	0.0	706	8.1	5.0	0.0	1500.0	30.0	03.0	0.0	11.0	7.0

	Ga ppm	In .ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P ppm	Pb ppm	Pt ppb	Pd ppb
Mean	0.0	0.0	1.4	85.3	0.3	1612	0.3	0.8	54.2	19.4	350.2	30.0	0.0	0.0
Median	0.0	0.0	1.5	42.3	0.3	1280	0.4	0.8	17.5	16.0	260.0	27.0	0.0	0.0
Mode	0.0	0.0	2.1	70.1	0.3	N/A	0.4	1.2	13.0	10.0	230.0	10.0	0.0	0.0
Standard Dev	0.0	0.0	0.5	150.7	0.2	1154	0.2	0.5	144.2	10.8	273.3	19.0	0.0	0.0
Minimum	0.0	0.0	0.3	14.6	0.1	352	0.0	0.0	5.5	6.0	80.0	9.0	0.0	0.0
Maximum	0.0	0.2	2.9	838.0	1.2	5710	0.8	1.7	991.0	63.0	1280.0	112.0	0.0	0.0

	Rb	Sb	Se	Sr	Ta	Te	Ti	TI	V	W	Υ	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Mean	91.4	0.2	0.1	84.0	0.0	0.0	0.6	0.7	68.9	0.0	32.5	46.1	99.3
Median	88.4	0.2	0.0	80.9	0.0	0.0	0.5	0.5	58.0	0.0	24.1	43.0	81.0
Mode	107.0	0.2	0.0	99.8	0.0	0.0	0.3	0.4	58.0	0.0	17.6	34.0	69.0
Standard Dev	40.2	0.2	0.7	59.3	0.0	0.0	0.4	0.8	36.4	0.0	30.0	17.5	58.6
Minimum	18.8	0.0	0.0	7.9	0.0	0.0	0.1	0.0	22.0	0.0	7.1	19.0	32.0
Maximum	235.0	1.2	5.0	266.0	0.0	0.0	1.7	4.4	170.0	0.0	159.0	102.0	338.0

Table 3: Basic statistics of stream sediment geochemistry

#### 3.3.2 Soil Geochemical Results

Soil geochemistry indicates no potential for precious and base metal mineralization. Areas covered by soil samples are given in Plan NDbg0772. Summary statistics of soil results are given in table 4. Complete data including sample locations and assay results are listed in Appendix 4.

	Ag ppm	Al %	As ppm	Au ppb	Ba ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Fe %
Mean	0.25	8	5.8	0.0	424	0.06	0.54	0.53	91.00	19	75.59	29.53	25	3
Median	0.00	8	6.0	0.0	379	0.00	0.34	1.00	69.70	15	71.46	21.24	23	3
Mode	0.00	10	0.0	0.0	294	0.00	N/A	1.00	115.13	13	82.69	23.38	27	4
Standard Dev	0.48	1	5.9	0.0	207	0.27	0.75	0.57	69.61	13	28.95	26.13	13	2
Minimum	0.00	2	0.0	0.0	75	0.00	0.04	0.00	20.97	3	17.46	3.78	7	1
Maximum	2.00	14	36.0	0.0	1144	3.00	6.92	5.00	529.73	113	326.89	193.3	123	16

	Ga ppm	ln ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P ppm	Pb ppm	Pt ppb	Pd ppb
Mean	19.49	0.00	2.25	48.63	0.44	830.70	0.98	8.05	24.69	35	262.2	38.69	0.0	0.0
Median	18.47	0.00	2.28	39.15	0.38	648.75	0.94	6.05	19.93	34.9	225.2	35.67	0.0	0.0
Mode	18.22	0.00	N/A	32.03	0.40	N/A	1.09	11.4	20.31	41.1	208.0	27.92	0.0	0.0
Standard	5.76	0.00	0.87	35.38	0.25	555.07	0.56	6.07	21.68	11.8	117.2	14.36	0.0	0.0

Dev											•			
Minimum	6.34	0.00	0.27	11.67	0.12	146.58	0.00	0.91	5.51	9.14	106.9	11.57	0.0	0.0
Maximum	38.28	0.00	4.55	275.0	1.94	3344.20	4.72	35.9	198.53	65.6	744.6	83.64	0.0	0.0

	Rb ppm	Sb ppm	Se ppm	Sr ppm	Ta ppm	Te ppm	Ti %	Ti ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
Mean	193.84	0.41	0.00	78.56	5.69	0.00	0.51	1.13	92.28	5.04	22.8	60.48	87.74
Median	184.85	0.00	0.00	61.18	4.27	0.00	0.44	1.04	75.61	3.14	20.1	53.61	72.97
Mode	221.73	0.00	0.00	75.42	3.18	0.00	N/A	0.95	81.83	2.34	25.4	51.91	61.40
Standard Dev	84.68	0.65	0.00	79.23	4.42	0.00	0.33	0.53	87.83	7.91	13.4	28.75	60.18
Minimum	19.38	0.00	0.00	16.09	0.72	0.00	0.09	0.00	10.00	0.99	8.1	21.62	32.07
Maximum	561.07	7.00	0.00	755.02	27.28	0.00	2.34	3.34	927.45	72.8	105.7	338.0	385.2

Table 4: Basic statistics of Soil geochemistry

#### 3.4 Geophysical Survey

### 3.4.1 Airborne Geophysics

To facilitate exploration over the Sundargarh Reconnaissance Permit, airborne geophysical data were purchased from the Orissa State Government. This data were flown by World Geoscience in the early 1990's at a nominal line spacing of 250m at a mean terrain clearance of 80m. Airborne geophysical data included total field and reduced-to-pole (RTP) magnetics. Interpretation was based on identification of discrete targets, possibly representing an intrusive kimberlite/Lamproite source.

A total of 58 targets were selected from the airborne data-set for follow-up. Targets were selected, based on criteria including size, geometry and discreteness.

#### 3.4.2 Ground Geophysics

All moderate and high priority anomalies were selected for ground follow-up with ground magnetics and concurrent soil sampling surveys. Some anomalies, although discrete, were suspected to be due to cultural sources, and so a decision was made in the field whether to complete ground magnetics/soil sampling, based on then in-field findings.

A total of 21 targets were proposed for follow-up. Sixteen of the twenty-one targets, totalling 78 line km, were completed due to the remainder being due to cultural sources or being inaccessible due to Forest coverage.

Ground magnetics surveys confirmed the airborne anomalies, with descriptions of each anomaly as follows;

#### 2-002

Airborne: Elongate, NW-trending RTP high, possibly formed by two coalescing lobes. Ground magnetics defines the main NW lobe as sourced by approximately 2Ha body.

#### 2-004

Airborne: Discrete circular RTP mag high. Ground magnetics defines a NW-trending elongate target with low volume potential.

#### 2-005

Airborne: High amplitude, discrete RTP high within active magnetic background. Ground magnetics confirms the airborne target as a discrete RTP mag high, with source size of approximately 2Ha. Subsequent soil geochemistry downgrades the priority of this target.

#### 2-011

Airborne: Discrete, high amplitude RTP high, suspected as culturally sourced. Ground magnetics confirms the anomaly as discrete high-amplitude elongate, with low potential to be sourced by any volume. Subsequent soil geochemistry fails to support the magnetics in terms of a possible kimberlite/Lamproitesource.

#### 2-016

Airborne: Elongate RTP mag high. Ground magnetics confirms the anomaly as an NE-trending elongate RTP mag high within a relatively quiet magnetic background. Although K-suite soil geochemistry assays are elevated, there is now distinct anomaly coincident with the magnetic source.

#### 2-024

Airborne: ENE-trending linear RTP mag high. Ground magnetics defines an ENE-trending RTP mag high, width of the source approximately 50m. Limited potential for volume and not supported by anomalous soil geochemistry results.

#### 2-037

Airborne: RTP mag high on flank of major magnetic discontinuity. Ground magnetics defines an elongate RTP mag high, approximately 1Ha in size. Results from soil geochemistry surveys fails to support the magnetic anomaly.

#### 2-043

Airborne: Discrete RTP mag high. Ground magnetics defines a NNE-trending RTP magnetic high, although coincident with a village.

#### 2-044

Airborne: Discrete RTP mag high. Ground magnetics defines an ENE-trending RTP mag high open to the NE, width of the source is less than 50m. Limited potential for volume and not supported by anomalous soil geochemistry results.

#### 2-049

Airborne: A discrete RTP high on the flank of broader wavelength feature. Ground magnetics defines a discrete RTP mag high, approximately 1Ha in size. Results from soil geochemistry surveys fails to support the magnetic anomaly.

#### 2-057

Airborne: Two RTP mag high lobes forming a WNW-trend. Coincidence of ground magnetic anomaly with a village confirms the source as cultural

#### 2-058

Airborne: Discrete RTP mag high. Ground magnetics defines an elongate RTP mag high, approximately 2Ha in size. Results from soil geochemistry surveys fails to support the magnetic anomaly.

#### 4 HEALTH, SAFETY, COMMUNITY RELATIONS AND ENVIRONMENT

Rio Tinto recognizes that excellence in managing health, safety, environment and community responsibilities is essential to long-term success. Through effective management practices the Group aims to ensure the health and safety of its employees, to minimise any adverse impacts its activities may have on the environment and to establish mutually beneficial relationship with local community.

#### 4.1 Health and Safety

Rio Tinto Group policies on Health and Safety are designed to minimise the risk of injury or occupation illnesses. A minimum management requirement at all of the company-managed operations is to ensure full compliance with the Rio Tinto Standards. The goal is for zero work related injuries or occupation illnesses. Minimum prerequisites require that all work activities be based on risk assessments ensuring that effective controls and safe work procedures exist for all hazardous activities. Further the standards require a system for ensuring that employees are trained, equipped and where applicable, certified to carry out their work according to the applicable safe work procedures, and that their competence has been tested. Personal protective equipment of international standards has been issued to each of the employees relevant to their conditions of working. All drivers employed are specially trained in 4WD driving and safety by international driving consultants. All field staffs are also trained in advanced first aid by international trainers. Rio Tinto organises periodic refresher courses of these training programme maintain the standards.

#### 4.2 Environmental

Rio Tinto's Environmental Policy aims to prevent or otherwise minimise, mitigate and rehabilitate any effects that the group's operations have on the environment. The internal environmental systems adapted by Rio Tinto has been accredited with ISO 14001 certification. Although exploration activities in reconnaissance permits are essentially non-invasive to the environment, the same rigor and level of compliance to the standards, systems and procedures is followed.

For all the Orissa RP's an Environmental Management Plan has been devised prior to the initiation of field activities. This plan will be constantly updated as the program develops. The plan evaluated potential environmental impacts associated with the activities and provided procedures to prevent or minimize impacts. In case where an impact was unavoidable or accidental, appropriate rehabilitation procedures are in place. Relevant exploration personnel including those of contractors are inducted and trained in these procedures. Control systems include incident reporting and annual environmental reporting to first-line management and corporate audits.

#### 4.3 Community Relations

There are more than 75 villages within the RP areas with a total population estimated to be over 100,000. Agriculture is the main occupation for over 90% of the population. Industrial activity is mainly agrarian. Agriculture is mostly two crops restricted to the monsoon season with less than 10% area under irrigation.

During the term of the exploration specific community relation policies are undertaken which includes distribution of community briefing sheets, employment of local people for work, relationships with preferred local suppliers/services, continuous consultation with stakeholders and development of internal system of recording, reporting and monitoring of community activities.

### 5 REFERENCES

ACC Rio Tinto Exploration Ltd (2005):

1<sup>st</sup> Biannual Progress Report for exploration of Sundargarh Reconnaissance Permits for the Period 29/04/2005 to 29/10/2005.

Pages 1-12

Rio Tinto Exploration India Ltd (2005):

2<sup>nd</sup> Biannual Progress Report for exploration of Sundargarh Reconnaissance Permits for the Period 29/10/2005 to 29/04/2006.

Pages 1-14

Rio Tinto Exploration India Ltd (2006):

3<sup>rd</sup> Biannual Progress Report for exploration of Sundargarh Reconnaissance Permits for the

Period 29/04/2006 to 29/10/2006. Pages 1-10

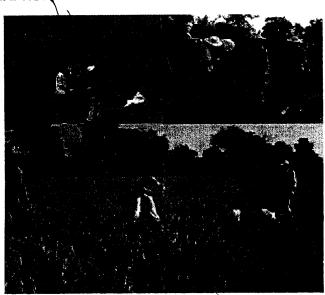
Rio Tinto Exploration India Ltd (2007):

4<sup>th</sup> Biannual Progress Report for exploration of Sundargarh Reconnaissance Permits for the Period 29/10/2006 to 29/04/2007. Pages 1-10

Rio Tinto Exploration India Ltd (2008):

5<sup>th</sup> Biannual Progress Report for exploration of Sundargarh Reconnaissance Permits for the Period 29/04/2007 to 29/10/2007. Pages 1-16

6 PHOTOGRAPHS:



Photograph: Gravel Sampling and Geophysical Surveys during the Exploration Programme.