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## NEWS RELEASE

### **Significant increase in Gold Mineral Resources at the Goldboro Project, Nova Scotia**

- Report covers the Ramp Area and eastern section of Goldboro over a 1.5km strike length
- Work program suggested by the independent report has significant upside

**Montreal, Canada, August 4, 2009: OREX EXPLORATION INC.** is pleased to announce new Mineral Resource Estimates\*, or MRE\*, on its 100% owned Goldboro Gold Project in Nova Scotia. InnovExplo Inc. has released National Instrument 43-101 compliant MRE\* in all categories over a 1.5km strike length covering the West Goldbrook Shaft, Ramp, Boston-Richardson Mine and East Goldbrook Shaft sectors to a -520m vertical depth from surface, with 97% of the MRE\* located within the first 350m from surface.

The current MRE\* were calculated by Donald Gervais, B. Sc., P. Geo., and Alain Carrier, M. Sc., P. Geo., both of InnovExplo, independent Qualified Persons under NI 43-101 guidelines, and were calculated using the *Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines* prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on December 11, 2005. The current MRE\* Technical Report will be available on SEDAR at [www.sedar.com](http://www.sedar.com). The current MRE\* at cut-off gold grades between 0.5 g/t and 5 g/t gold in increments of 0.5 g/t gold are outlined in the table below. At a 1.5 g/t gold cut-off are 2,711,000 tonnes grading 4.56 g/t gold, totalling 397,200 gold ounces in the Measured + Indicated Resources categories, with an additional 3,438,000 tonnes grading 3.67 g/t gold totalling 405,926 gold ounces in the Inferred Resource category.

MINERAL RESOURCE ESTIMATES - GOLDBORO GOLD PROJECT (July 29, 2009)												
Cut-off Grade	MEASURED			INDICATED			TOTAL			INFERRED		
	Tonnes	Grade (g/t)	Ounces	Tonnes	Grade (g/t)	Ounces	Tonnes	Grade (g/t)	Ounces	Tonnes	Grade (g/t)	Ounces Gold
0.50	519,000	3.08	51,400	7,414,000	2.06	491,400	7,933,000	2.13	542,800	10,389,000	1.78	594,121
1.00	417,000	3.67	49,300	3,923,000	3.27	412,000	4,340,000	3.31	461,300	5,286,000	2.81	477,971
<b>1.50</b>	<b>270,000</b>	<b>4.99</b>	<b>43,300</b>	<b>2,441,000</b>	<b>4.51</b>	<b>353,900</b>	<b>2,711,000</b>	<b>4.56</b>	<b>397,200</b>	<b>3,438,000</b>	<b>3.67</b>	<b>405,926</b>
2.00	197,000	6.23	39,500	1,680,000	5.77	311,900	1,877,000	5.82	351,400	2,447,000	4.46	351,287
2.50	160,000	7.14	36,700	1,265,000	6.94	282,200	1,425,000	6.96	318,900	1,965,000	5.01	316,842
3.00	142,000	7.72	35,200	983,000	8.14	257,400	1,125,000	8.09	292,600	1,611,000	5.52	285,678
3.50	85,000	10.70	29,200	789,000	9.35	237,300	874,000	9.48	266,500	1,337,000	5.98	257,096
4.00	77,000	11.38	28,200	647,000	10.58	220,300	724,000	10.67	248,500	1,130,000	6.40	232,251
4.50	60,000	13.48	26,000	549,000	11.72	206,900	609,000	11.89	232,900	934,000	6.85	205,500
5.00	59,000	13.66	25,900	475,000	12.80	195,600	534,000	12.89	221,500	763,000	7.31	179,375

## ***Geological and resource Modeling Parameters***

- The resource estimate was done using the 3-D Modeling and Block Model Interpolation Method with Ordinary Kriging, within a 1,550m strike length corridor of the 2.5km long Goldboro mineralization corridor from section 8050E to 9600E and to a maximum vertical depth of 520m below surface.
- Block shapes are 5m by 5m by 2.5m wide reflecting the shape of the mineralized horizons.
- Resources were evaluated from historic and current drill holes assay results. A total of 321 drill holes were used of which 67 are current (post-2004) and 254 are historic (pre-1996). Of the historic drill holes, 9 were not considered for grade estimation and 97 of which had been selectively assayed with those un-sampled intervals given a 0 g/t gold grade.
- The estimate includes 16 gold bearing belts divided into a South and North geological domain for interpolation purposes.
- The area was interpreted from transverse sections 12.5m to 100m apart.
- Results are presented undiluted and in-situ.
- The resources were compiled using a minimum cut-off grade of 1.5 g/t Au. This cut-off must be re-evaluated in light of current market conditions (for example, the gold price, exchange rate, mining methods and costs, and environmental and socio-economic factors).
- The bulk density was used to calculate tonnages from the volumetric estimates of the resource grade block model. Every block having an assigned rock code has a specific gravity fixed at 2.7 g/cm<sup>3</sup>.
- A minimum width of 1.5m true thickness was applied using the gold grade of the adjacent material when assayed or a value of 0 g/t gold when not assayed.
- High grade capping was done on the raw assay data and established at 125 g/t gold before compositing.
- 1m composites have been used for interpolation.
- Any discrepancies in the estimates numbers are due to rounding effects; rounding followed the recommendations in NI 43-101.

## ***Goldboro Geological Model***

The current NI 43-101 MRE\* have been modeled by extending the interpreted mineral zones 825m along strike to the east and 500m to the west from the Company's 2006 NI 43-101 mineral resources. The 2006 mineral resources model included a revised interpretation of the historically accepted "slate-belt" model for the Property, covering a 225m strike length in the "Ramp Area". The Ramp Area resources were reconciled to the 2004 "slate-belt" model mineral resources for the 1.5km strike length.

The historic slate belt model interpreted the zones of mineralization to be a "saddle-reef" type confined to quartz veined and fine grained argillites and shales along the Boston-Richardson Anticlinal Structure ("BRAS"). The 2005-2006 drilling confirmed the individual mineralized argillites are often clustered and could be grouped into larger mineral zones. The intervening greywackes are frequently brecciated, altered and mineralized with quartz, sulphides and gold, especially within the hinge zones. As a result, the 2006 mineral resources model was slightly modified from the historic slate-belt model to enclose larger zones of mineralization (for example the 123, 56, 78 Zones). The current MRE\* developed by InnovExplo extended these interpreted zones of mineralization.

In 2008-2009, a total of 44 holes were drilled over a strike length of 1km from west of the Ramp Area eastward beneath the historic Boston-Richardson Mine workings and further eastward above the mine workings towards the historic East Goldbrook Shaft sector. The recent drilling focused on in-filling historic surface drilling completed east of the Ramp Area. Many of the pre- NI 43-101 surface holes were not historically sampled outside the quartz-argillites and, in many instances, the recent drilling indicates lower gold mineralization occurs within the intervening greywackes.

InnovExplo's revised slate belt model is based on (i) lithologies (mainly argillites/shales), but with exceptions and could include arenites; (ii) the occurrence of quartz and/or carbonate veins, veinlets and

stockworks; (iii) current and historic gold assays; and (iv) influenced by the historic mining, for example the fold shape of the Boston-Richardson Zone mined stope. The mineralization was interpreted as a series of fold-shaped belts where some belts were joined together due to proximity and/or minimum mining width consideration. The limbs of the different belts are steeply dipping towards the North and the South and usually do not exceed the minimum mining width. The limbs form narrower zones and appear to be less mineralized. Locally, the individual zones or belts significantly increase in size in the hinges of the folds. The hinges appear to be dilatant zones locally the site of intense fracturing, brecciation and vein stockworking. In the hinges, different rock types were often included in the belts; as a consequence, the occurrence of veining and grades became more important features for its interpretation.

InnovExplo is of the opinion that different geological models can be used for the mineral resource estimation. The mineralized zones can either be interpreted as (i) narrow and high grade folded belts (+/- 16 revised slate belts), or (ii) larger structural domains (+/- 4 domains). For the current MRE\*, InnovExplo retained the first approach of individual belts rather than domains; but Orex believes the larger structural domains model merits further investigation from an exploration, geological and mineral resource perspective. Tests were completed using the two approaches, with both models giving similar total contained gold ounces. Investigation revealed that, within the defined larger structural domains model, the main constraints to the distribution of grade were the un-sampled intervals assigned 0 g/t gold values in the historic drilling. The more constrained revised slate-belt model was selected by InnovExplo for the current MRE\* since there are fewer un-sampled intervals at 0 g/t gold within these defined mineral zones, resulting in less dilution and therefore producing less tonnage at higher grade. Orex believes some additional drilling is required to establish gold grades in areas where historic drilling was not sampled. Some 97 holes from the 254 drill hole historic database (pre-1996) contain un-sampled intervals. All 67 current drill holes (post-2004) were sampled continuously through the larger mineralized sections. The fact that the arenites/greywackes do locally carry gold, outside the historic slate belts, led Orex to complete a more thorough sampling of drill holes. Some additional drilling will be required to re-drill areas where historic drilling was not sampled and may carry lower grade gold mineralization.

### ***The Case for the “Larger Structural Domains” Geological Modeling and its Impact on Future Mineral Resources Modeling***

Orex believes that the larger structural domains may exist, require geological modeling and may ultimately have an impact on future mineral resources. Drilling from the 2008-2009 campaign has further revised Orex's interpretation of the geology of the Boston-Richardson Anticlinal Structure (the “BRAS”), suggesting the mineralization may be related to sub-vertical shearing within an axial planar east-west corridor some 100m plus wide. The shearing is both discordant to the stratigraphy in the immediate fold hinge and more concordant on the dipping limbs. In the hinge area, the intervening greywackes are often well stockworked and mineralized due to brecciation by the near vertical shears. Along the limbs, the mineralization is attenuated, converging down-dip, affected by the near parallel axial planar shearing. Mineralization and veins are near parallel to the bedding; however, approaching the hinges, these veins and mineral zones splay following the dilatant zones along bedding as well as more vertical axial planar structures. Appropriately, Orex has renamed the structure the Boston-Richardson Deformation Zone (“BRDZ”) to reflect both the folded and sheared characteristics observed of the mineralization.

The BRDZ is defined by alteration comprised of a general darkening and silicification of sediments, and the presence of increased quartz veins-stringers and stockworks, sulphides and gold. The alteration and shearing often overprints primary sedimentary features, generally resulting in inconsistent core logging and highly interpretive correlation of units; however, the alteration/deformation corridor is relatively well defined over the entire strike length of the mineralization.

The larger mineralized envelopes incorporate a much larger number of historic drill holes with un-sampled intervals. For NI 43-101 compliant mineral resources, the un-sampled intervals can only be assigned a 0 g/t gold grade. Additional drilling is required to in-fill and twin historic drill holes to confirm the presence of gold mineralization where historic drill holes were un-sampled. Orex believes that eventually, adequate new drilling will be available to replace those historic un-sampled holes, potentially adding resources from previously un-sampled intervals assumed to have a 0 g/t gold grade.

Mineralization occurs in high grade shoots within quartz-sulphide bearing argillites, as well as both disseminated lower grade and vein-stockwork higher grade gold in intervening greywackes. The model demonstrates trends to the higher grades that may follow continuous mineralized shoots (in excess of 5 g/t Au) plunging easterly at 40°, different than the main structural plunge of the folded rocks at 20°. The plunge of the higher grades is believed to correlate with the intersection of the sub-vertical shearing along the dipping limbs of the BRAS.

The Dolliver Mountain Shaft sector (“Dolliver Mountain”) was not included in the current MRE\*. Dolliver Mountain is located 1km west of the western boundary of current MRE\* and hosts quartz stockworks with gold mineralization. Similar to the Ramp Area zones, four slate belts thus far identified at Dolliver Mountain could potentially form a single large zone with over 60 m of vertical thickness in the hinge area. The Dolliver Mountain historical mine shaft section mapping suggests potential for similar zone(s) of mineralization as identified in the current MRE\*, but there is little data or modern exploration to validate this at this time. InnovExplo recommends drilling this area, thereby potentially adding a 1km mineralized segment. Limited drilling at depth in the main Goldboro area also shows additional gold potential, as well in areas of historic drilling given the 0 g/t gold grades over un-sampled intervals.

Alex Horvath, P. Eng., Senior Technical Advisor to Orex commented, *“As Orex continues to validate and redefine the historic resources with NI 43-101 compliant drill results, the mineral resources continue to grow at increased grades for the known 1.5km strike length of the mineralization. The increased grades are likely a two-fold result of the “nugget effect”. Historic sampling/assaying methods were not the most appropriate and the increased number of samples in the database from new drilling is beginning to counteract the “nugget effect” producing more representative grades. Significant additional drilling remains to be completed along the 1.5km strike length of known mineralization before enough new data can be collected to replace the historic drill holes that are insufficiently sampled and presently contribute a 0 g/t gold grade from un-sampled intervals for estimation. We expect that the trend of increasing mineral resources and resource grade will continue until we have adequately drilled the entire 1.5km strike length with sufficient new drilling, including the Phases 2D and 2E campaigns. An immediate target for diamond drilling has been identified at the historic Dolliver Mountain sector 1km west of the West Goldbrook shaft and the western limits of the current MRE\*. The Dolliver Mountain target appears to have significant potential to add resources, and the un-drilled 1km strike length remaining to be tested by the Phase 2E drill program appears highly prospective.”*

Mark Billings, President and CEO of Orex added, *“Orex is satisfied that the current MRE\* are showing much higher gold grade, with upside potential that requires more drilling. InnovExplo has recommended in-fill and extensional drilling to be completed over the 2.5km strike to better define and correlate the mineralization, and to produce more realistic mineral resources. For this, the Company plans on completing the 8,000 m Phases 2D and 2E drill campaigns as quickly as possible with the objective of delineating the maximum quality gold ounces for the entire 2.5km length. Furthermore, the Company will consider taking a bulk sample to prove up a more realistic grade at Goldboro.”*

### ***Comparison between the 2009 and 2006 Mineral Resource Estimates***

The 2006 mineral resources were calculated for the 225m long Ramp Area with additional mineral resources calculated outside the Ramp Area over a 1.5km distance covering the West Goldbrook Shaft and East Goldbrook Shaft. The Non-Ramp Area estimates were calculated by subtracting the Ramp Area estimates from the August 2004 mineral resource estimates over the 1.5 km distance (*both the 2006 and 2004 mineral resource estimates were contained in NI 43-101 technical reports available on SEDAR at [www.sedar.com](http://www.sedar.com)*).

The 2006 combined Measured and Indicated resource estimates at a 0.5 g/t gold cut-off grade for the Ramp Area and Non-Ramp Area were 13,255,000 tonnes grading 1.13 g/t gold for approximately 484,800 gold ounces with an additional 15,600,000 tonnes grading 0.63 g/t gold for 316,000 gold ounces in the Inferred category to a -300 m vertical depth from surface.

The current MRE\* are significantly higher and of better quality in terms of grade over the same 0.5 g/t gold cut-off grade and 1.5km distance covering the West Goldbrook Shaft, Ramp Area and East Goldbrook Shaft sectors. The combined Measured and Indicated resource estimates at a 0.5 g/t gold cut-off grade are 7,933,000 tonnes grading 2.13 g/t gold, an 88% grade increase from 2006, totalling 542,800 gold ounces. There are an additional 10,389,000 tonnes grading 1.78 g/t gold, a 182% grade increase from 2006, totalling 594,121 gold ounces in the Inferred category.

### ***Conference Call***

The Company would like to remind shareholders that it will hold a conference call (in English) on Tuesday, August 4, 2009, beginning at 11:30 EDT, at the following dial-in coordinates:

North America: 1-800-950-1454  
Other: +1 212 231 2902

### ***About Orex Exploration Inc.***

Orex Exploration Inc. is a Canadian-based junior resource and exploration company trading under the symbol OX on the TSX Venture Exchange and O5D on the Frankfurt Stock Exchange. The Company holds a 100% interest in the Goldboro Gold Project in Nova Scotia.

*The technical information contained in this news release has been prepared by Mr. Jean Lafleur, M. Sc., P. Geo., Senior Technical Advisor to Orex, Mr. Alex Horvath, B.A.Sc., P. Eng., of A. S. Horvath Engineering Inc. (Ottawa, Ontario), and Mr. Alain Carrier, M. Sc., P. Geo., of InnovExplo Inc. (Val-d'Or, Quebec). All individuals are Qualified Persons under National Instrument 43-101 regulations.*

*\* Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The quantity and grade of reported Inferred Mineral Resources in this estimation are conceptual in nature and there has been insufficient exploration to define an Indicated Mineral Resource on the Project and it is uncertain if further exploration will result in discovery of an Indicated or Measured Mineral Resource on the Project. The quantity and grade of a Conceptual Target are theoretical in nature. There has been insufficient exploration to define the Conceptual Target as a mineral resource, and it is uncertain if further exploration will result in the discovery of a mineral resource.*

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