



Vimy Resources Limited

ARP Diamond Drillhole Sampling

ARP-GEO-PR-011




### Record of Revisions

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## Table of Contents

<b>1.</b>	<b>Purpose .....</b>	<b>3</b>
<b>2.</b>	<b>Scope.....</b>	<b>3</b>
<b>3.</b>	<b>Responsibilities.....</b>	<b>3</b>
<b>4.</b>	<b>DEFINITIONS.....</b>	<b>3</b>
<b>5.</b>	<b>Hazards .....</b>	<b>3</b>
<b>6.</b>	<b>Equipment required .....</b>	<b>3</b>
6.1	Sample Selection and core mark-up.....	4
6.1.1	QAQC .....	4
6.1.2	Mineralisation .....	4
6.1.3	Sandstone and transported overburden sampling .....	4
6.1.4	Basement Sampling .....	5
6.2	Sample Cutting.....	6
6.2.1	Label sample bags .....	6
6.2.2	Cutting Core.....	6
6.2.3	Filling sample sheets .....	6
6.2.4	Bagging Samples .....	7
6.2.5	Drill core left in trays .....	7
<b>7.</b>	<b>References .....</b>	<b>8</b>
<b>8.</b>	<b>Document Control.....</b>	<b>8</b>

## 1. Purpose

To standardise the protocol for sampling diamond drill holes within the Alligator River Project (ARP).

## 2. Scope

This procedure applies to Vimy personnel and contractors involved with the sampling of drill core.

## 3. Responsibilities

The instruction and supervision of this procedure for all personnel will be the responsibility of the supervising Geologist.

Vimy geologists and field technicians responsible for logging and processing holes must have a good understanding of their respective roles associated with this procedure.

Geologist	Responsible for providing sampling intervals and adhering to the sampling protocol.
Field Technician	Responsible for core cutting and sampling

## 4. DEFINITIONS

CPS	Counts per second from scintillometer (Radeye)
Spot	Core sampled at a specified interval
Composite	A series of small samples taken over a specified interval that will be combined in one bag and submitted as one sample
Standard	A geochemical sample of known value
Duplicate	A sample duplicating the same lithological unit as the previous sample
Datashed	Database management system currently employed by Vimy
Mineralisation	Core with downhole wireline gamma grades > 50 ppm eU <sub>3</sub> O <sub>8</sub>
QAQC	Quality Assurance and quality control

## 5. Hazards

Potential hazards associated with the sampling of drill core include:

- Falling objects, including from the core tray being sampled
- Back injury due to constant lifting of trays
- Foreign objects in eyes (flying core fragments if breaking core with a hammer)
- Excessive noise
- Combination of water and electricity
- Inhalation and ingestion of toxic or radioactive material

## 6. Equipment required

The following equipment should be used while sampling of drill core:

- |                  |                      |
|------------------|----------------------|
| • Gloves         | • Hearing Protection |
| • Safety Boots   | • Rubber Gloves      |
| • Safety Glasses | • Apron or labcoat   |

Other equipment required to carry out the task comprises:

- Cable ties
- Chinagraph pencils
- Standards and blank material
- Pens and marker pens
- Scales
- A copy of this procedure
- Measuring tape
- Sampling sheet
- Sampling bags (plastic or calico)
- Hammer
- 200ltr drum

## 6.1 Sample Selection and core mark-up

Samples must not cross lithological boundaries. Samples should be marked up with a chinagraph pencil with the cutting line measured with a measuring stick or tape measure. The cutting line should be drawn to bisect the apex of the main foliation or bedding.

Samples should be selected as a representative segment within the geological interval. If alteration or mineralisation of interest is encountered, more samples, as detailed below, can be collected for analysis.

Ensure that geological logging and other analyses (ASD, portable XRF, magnetic susceptibility, scintillometer) have been completed before sampling drill core.

### 6.1.1 QAQC

At a minimum, duplicates must be submitted at a rate of 1 sample out of 20 (or more if justified), and one standard inserted every 20<sup>th</sup> sample. There should be a standard at every sample number that ends in 20, 40, 60, 80, and 00 and a duplicate at every sample number that ends in 10, 30, 50, 70 and 90.

### 6.1.2 Mineralisation

Mineralised samples will be designated as spot samples of 0.5 m length. A 1.5 m bracket (3 samples) of barren material is to be marked up on either side of mineralisation.

Record samples weights of mineralised drill core, ideally while measuring bulk densities (refer to procedure ARP-GEO-PR-005).

### 6.1.3 Sandstone and transported overburden sampling

Sandstone and transported overburden are to be sampled as a series of ~ 5 m composite samples from the top of the sandstone to the bottom. The 5 m composite sample is created by sampling a 10 cm piece of ½ core at metre intervals, just beneath the metre mark. Place five one-metre samples in the ONE sample bag.

For example, the core in Figure 1 would be sampled as follows:

Comp. sample 1 = 10 cm of ½ core from just below the 90 m, 91 m, 92 m, 93 m, & 94 m marks.

Comp. sample 2 = 10 cm of ½ core from just below the 95 m, 96 m, 97 m, 98 m, & 99 m marks.

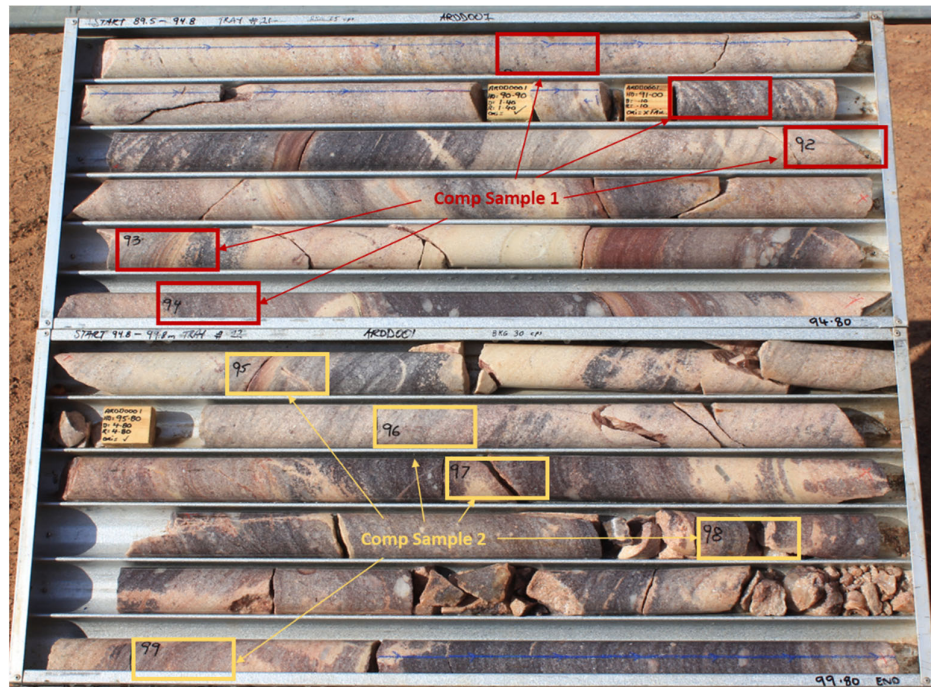


FIGURE 1: "COMP" SAMPLING OF SANDSTONE DRILL-CORE

The sample intervals will be recorded in a log sheet as "COMP" samples.

#### 6.1.4 Basement Sampling

Basement lithologies (rocks under sandstone) are sampled by collecting a 30 cm long piece of  $\frac{1}{2}$  or  $\frac{1}{4}$  core at 5 m intervals. Each piece of core represents a single sample that is submitted for analysis.

For example, the core in Figure 2 would be sampled as follows:

Basement Sample 1 = 30 cm of half core from 140 m

Basement Sample 2 = 30 cm of half core from 145 m

These samples will be recorded on a log sheet as "SPOT" samples.



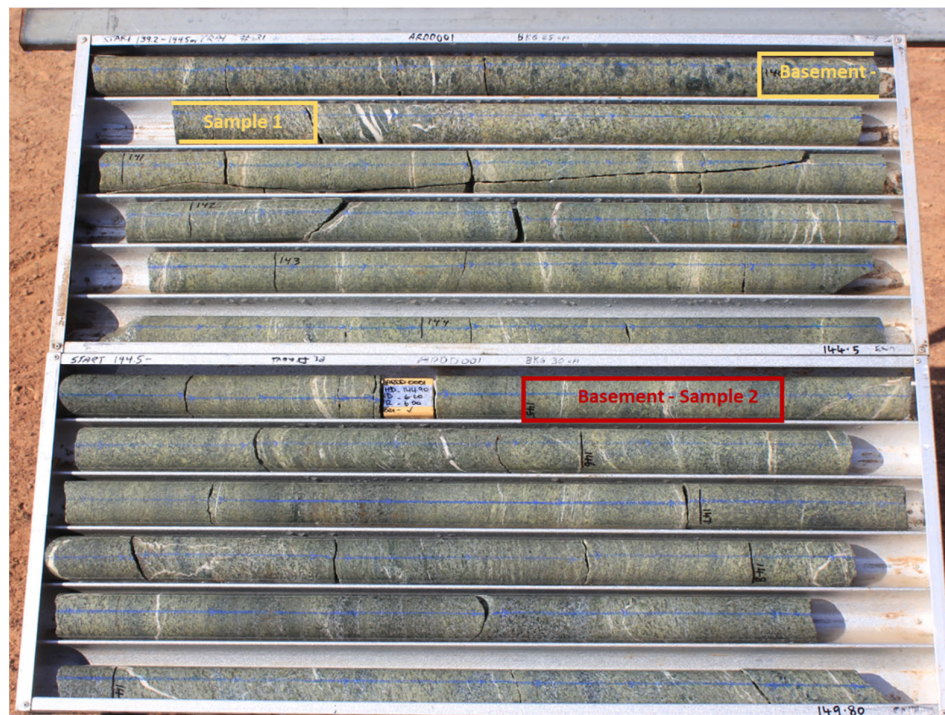


FIGURE 2: "SPOT" SAMPLING OF BASEMENT DRILL CORE

## 6.2 Sample Cutting

Before going ahead with drill core cutting, ensure that a geologist has completed a sample sheet for this drill hole.

### 6.2.1 Label sample bags

Ensure plastic or calico sample bags are labelled so that the sample number can be seen on the outside of the bag once it has been tied up.

### 6.2.2 Cutting Core

Cut core corresponding to sampling intervals marked on drill core. Samples will almost always be half core, except for duplicates, which will need to be quartered. If possible, sample the half of core that does not have the core orientation line on it.

Operators of the core saw should be familiar with the core saw procedure and be aware of the following hazards and PPE required (listed above).

### 6.2.3 Filling sample sheets

Record the following:

- Geologist in charge of selecting sampling intervals
- Person in charge of sampling
- Drum number corresponding to the samples

- Date sampled
- Sample/duplicate and standard IDs
- Any relevant comments

Mineralised samples should be flagged for the laboratory operators.

Drillhole ID	Metre Fm	Metre To	Sample ID	Sample Type	Sampler	Date	Comments
ARDD0001	0.3	2	VV000001	COMP	KL & PH		
ARDD0001	2	7	VV000002	COMP	KL & PH		
ARDD0001	7	12	VV000003	COMP	KL & PH		
ARDD0001	12	17	VV000004	COMP	KL & PH		
ARDD0001	17	22	VV000005	COMP	KL & PH		
ARDD0001	22	27	VV000006	COMP	KL & PH		
ARDD0001	27	32	VV000007	COMP	KL & PH		
ARDD0001	32	37	VV000008	COMP	KL & PH		
ARDD0001	37	42	VV000009	COMP	KL & PH		
ARDD0001	37	42	VV000010	DUP	KL & PH		

Drillhole ID	Metre Fm	Metre To	Sample ID	Sample Type	Sampler	Date	Comments
ARDD0001	117	117.3	VV000051	SPOT	KL & PH		
ARDD0001	122	122.3	VV000052	SPOT	KL & PH		
ARDD0001	127	127.3	VV000053	SPOT	KL & PH		
ARDD0001	128	128.3	VV000054	SPOT	KL & PH		Extra
ARDD0001	130.6	130.9	VV000055	SPOT	KL & PH		Extra
ARDD0001	132	132.3	VV000056	SPOT	KL & PH		

FIGURE 3: SAMPLE SHEETS FOR SANDSTONE AND BASEMENT DRILL CORE

#### 6.2.4 Bagging Samples

Once the drill core is cut, place it in its sample bag and tie, ensuring sample number is still legible. Once all samples are cut and bagged, check for samples numbers skipped or double-ups.

If in order, place samples in a green bag, zip-tie and store in drum. When drum is full, or when requested, dispatch the drum to the laboratory for analysis.

Ensure that the sample range is written on the drum for easy identification.

#### 6.2.5 Drill core left in trays

The core remaining in trays is to be placed into the core racks or stored on the ground in the core yard.

Make sure the top tray of the rack has a metal lid to protect the core. Ensure that the Hole\_ID, meter from / meter to, and tray number are easily identifiable.

The location of the drill hole should be recorded on the core yard map kept in the geo office.

## **7. References**

ARP-GEO-PR-012 Core Processing and cutting procedure

ARP-GEO-PR-005 Bulk density procedure

## **8. Document Control**

This is a controlled document. This procedure will be reviewed and updated at least once every three years by an exploration geologist.