**Student Handout 3**

**Lesson 2 – Oil and Natural Gas: Sedimentary Rocks**

**Lab 3 – Sedimentary Rocks**

**Introduction**

In the two previous labs you investigated two of the processes involved in forming sedimentary rocks—deposition and cementation. Now you will have the opportunity to observe some of the types of sedimentary rocks and their characteristics. Classifying sedimentary rocks is based on how they formed. There are three categories—1)clastic, 2)chemical, and 3)organic. Clastic sedimentary rocks form from the solid particles of other rocks. Chemical sedimentary rocks form primarily from the evaporation of seawater. Organic sedimentary rocks form from the remains of living organisms.

**Materials**

* Collection of different types of sedimentary rocks\*
* Magnifying Glass
* Dilute HCl acid
* Paper towel.
* Rock and Mineral book (see references)

**Procedure**

1. Take the rocks out of their box/container and place them on your table.
2. Record their number in the data table.
3. Write a brief description, noting color, texture, hardness, and fossils.
4. Place a drop of diluted HCl on each rock and note its reaction in terms of NONE, WEAK, or VIGOROUS.
5. Use a paper towel to dry off any excess acid.
6. Use the flow-chart on page 27 to identify the rocks.
7. Use the rock reference book to determine which category it belongs to.

**Results**

Fill out the data table below.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** |  |  |  |  |  |  |  |  |  |  |
| **Name** |  |  |  |  |  |  |  |  |  |  |
| **Reaction With HCl** |  |  |  |  |  |  |  |  |  |  |
| **Description** |  |  |  |  |  |  |  |  |  |  |
| **Rock**  **Name** |  |  |  |  |  |  |  |  |  |  |

**Sedimentary Rock Identification Flow-Chart**

Reaction with HCl

None

Vigorous

Weak

**DOLOMITE**

**LIMESTONE**

Are the grains

visible to the

naked eye?

Are the grains larger than

2 mm?

Yes

No

Does the rock

Feel gritty?

No

Yes

No

Yes

**SANDSTONE**

**SILTSTONE**

Glassy, hard

Dull, soft

Are the grains rounded?

**CHERT**

No

Yes

Layered

**CONGLOMERATE**

Yes

No

**BRECCIA**

**MUDSTONE**

**SHALE**

**References**

Bell, Pat and Wright, David. Rocks and Minerals. Macmillan Field Guides. New York, New York. Collier Books. 1985.

Chesterman, Charles W. Field Guide to North American Rocks and Minerals. The Audubon Society. New York, New York. Alfred A Knopf. 1978.

Mottana, Annibale et al. Guide to Rocks and Minerals. New York, New York. Simon & Schuster. 1978.

Pough, Frederick H. Rocks and Minerals. Peterson Field Guides. New York, New York. Houghton Mifflin. 1996.