



PROPERTY RIGHTS AND ARTISANAL DIAMOND DEVELOPMENT II (PRADD II) GUINEA – MINING CADASTRE SYSTEM ASSESSMENT

APRIL 2014

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ACRONYMS

ADF	French Development Agency
ADPA	African Diamond Producers Association
AIDAR	USAID Acquisition Regulation
ANADER	Agency for Rural Development
ASDM	Artisanal and Small-scale Diamond Mining
ASM	Artisanal and Small-scale Mining
ASMD	Artisanal and Small-scale Mining Division
BNE	<i>Bureau National d'Expertise</i> (National Evaluation Bureau in Guinea)
CPDM	<i>Centre de Promotion et de Développement Minier</i>
CSO	Civil Society Organization
DM	Directorate of Mines
EITI	Extractive Industries Transparency Initiative
ePORT	electronic Program Observation Reporting and Tracking
ERC	Evaluation, Research, and Communication Project
EU	European Union
GIS	Geographic Information System(s)
GoG	Government of Guinea
GPS	Global Positioning System (American satellite constellation)
GNSS	Global Navigation Satellite System (Russian satellite constellation)
GTU	Geospatial Technology Unit
IQC	Indefinite Quantity Contract
KP	Kimberley Process
KPCS	Kimberley Process Certification Scheme
LADM	Land Administration Domain Model
LTPR	Land Tenure and Property Rights
M&E	Monitoring and Evaluation
MMG	Ministry of Mines and Geology (in Guinea)
MoA	Ministry of Agriculture
MOU	Memorandum of Understanding
NGO	Nongovernmental Organization
OECD	Organization of Economic Cooperation and Development

PAGSEM	<i>Projet d'Appui à la Gouvernance du Secteur Minier</i> (World Bank-funded Mining Sector Governance Support project in Guinea)
PMP	Performance Monitoring Plan
POMIGER	Post-Mining Income-Generating Environmental Rehabilitation
PRA	Participatory Rural Appraisal
PRADD II	Property Rights and Artisanal Diamond Development II
PS-MSWG	Precious Stones-Multi-Stakeholders Working Group
RCI	Republic of Côte d'Ivoire
RJC	Responsible Jewelry Council
RLRS	Rural Land Resources Service
RRA	Rapid Rural Appraisal
SODEMI	<i>Société de Développement Minier</i> (parastatal mining company in Côte d'Ivoire)
SOW	Scope of Work
STA/M	Senior Technical Advisor/Manager
STDM	Social Tenure Domain Model
STARR	Strengthening Tenure and Resource Rights
SWOT	Strengths, Weaknesses, Opportunities, Threats
ToR	Terms of Reference
USAID	United States Agency for International Development
USGS	United States Geological Survey
WD	Washington Declaration
WDDF	Washington Declaration Diagnostic Framework
WGAAP	Working Group on Artisanal and Alluvial Production

EXECUTIVE SUMMARY

The Property Rights and Artisanal Diamond Development Project II (PRADD II), under Contract No. AID-OAA-I-12-00032/AIDOAA-TO-13-00045, is implemented by Tetra Tech under the Strengthening Tenure and Resource Rights (STARR) Indefinite Quantity Contract (IQC) and under the auspices of the USAID Land Tenure and Property Rights Division. PRADD II mobilized a Land Administration Specialist (LAS) during the period March 18 – April 3, 2014 to carry out an assessment of the mining cadastre system and propose solutions for administering artisanal mining areas.

PRADD II's assessment overlapped with a similar, yet more detailed and far reaching, assessment being carried by an international mining and cadastre expert under the World Bank *Projet d'Appui à la Gouvernance du Secteur Minier* (PAGSEM) project. To avoid duplication of effort, since PAGSEM has agreed to share the consultant's report, PRADD's assessment was realigned to focus more on possible areas of assistance where PRADD II could help improve the administration of artisanal mining operating licenses, artisanal mining production data, support for USGS in the collection of geological and geomorphological data, spatially based data collection for M&E purposes, and conceptualization of project activities connected with strengthening the protection of surface tenure rights in areas where ASM is being carried out.

This report first looks at critical observations coming from this consultancy with an emphasis on key issues affecting the ASM sector, such as the poor coordination with the *Centre de promotion et de développement minier* (CPDM), inappropriate approaches to records management, and constraints associated with the government approach to parceling (known as *parcellisation* in French) of ASM zones. It then goes on to propose activities and approaches for overcoming these constraints, while raising the profile of other topics such as the formalization of customary surface tenure rights in ASM zones.

1.0 CRITICAL OBSERVATIONS

1.1 AGENCY COORDINATION CHALLENGES

The timing of this assessment consultancy overlapped with a broader, and more in-depth, assessment being carried out by an international mining and cadastre expert under the World Bank PAGSEM project, which is coordinated by CPDM. This includes a detailed assessment of how associated agencies under the MMG currently use information systems in management of data related to geology and geomorphology, production data and statistics, and cadastre, at all scales – small-scale, semi-industrial, and industrial. The PAGSEM assessment also goes further in its assessment of deficiencies in the legal and regulatory framework, and operational procedures, than was expected from this consultancy, which was to focus on mining cadastre aspects of the ASM sector.

In order to reduce the risk of potentially opposing recommendations, in the meeting held between PRADD II and the PAGSEM consultant, a common overall vision of how information systems should be structured technically and institutionally was agreed upon. It was also agreed that the current institutional structure within MMG is one of the key constraints that has resulted in conflicting views within the ministry as to agency functions and their use of information systems. In this regard, the final report of the PAGSEM consultant should be read in conjunction with this report for detailed recommendations on organizational reform within MMG.

1.2 INSTITUTIONAL CAPACITY

1.2.1 EXISTING USE OF INFORMATION SYSTEMS

Although MMG has an existing information system that is operational and housed within CPDM, its use by the Directorate of Mines (DM) and the Directorate of Geology (DG) is currently non-existent. The Directorate of Geology's IT needs were formerly served through the presence of a CPDM staff member in the Director's office, who had read/write access to the system. This arrangement is no longer in place, leaving the Geology with no access to, or internal capacity to use, computerized geological and geomorphological data. The case of the DM is discussed further below.

The PAGSEM consultant reported that he conducted a brief technical review of the system in use by CPDM and found many serious issues related to security and completeness of data, in addition to the system's primary limitation in that it is a single database for all operational aspects of the MMG. Not only does the system serve as the industrial mining cadastre, but it also stores and manages all geological data that was previously managed through coordination with the Geology Division, and other operational aspects such as production data monitoring and reporting.

The existing single system approach has greatly skewed MMG staff perceptions of what functionality should be provided by a mining cadastre, particularly within the DM. Accepted good practice

internationally limits mining cadastre functionality to those operations directly connected with granting and managing concessions/licenses only. Production data and statistics for mine sites, and geological/geomorphological data are not required for the effective management of a mining cadastre. It should be noted that the system currently operated by CPDM does not include data on ASM licenses.

Figure 1: The Two Mining “Cadastrs” in Directorate of Mines



The points above have been made because staff of the DM, including the Director of Mines, stated on numerous occasions that the agency needed its own mining cadastre, particularly for the ASM sector. Despite previously having access to the system housed within CPDM, such access is no longer provided, yet nobody was able to explain why this was now the case. Rather than resolve the institutional blockage(s) preventing DM again having access to the system, the agency feels it more prudent to build a separate system for its own use. Furthermore, ASM Division staff consistently cited the importance of having improved access to production data, in addition to better use of geological and geomorphological data for production yield projections, as their most desirable functions within a separate ASM mining cadastre.

DM has only two old desktop computers housed within what it terms its Mining Cadastre Division. Both with internet access available, these computers have a basic office software suite, but no GIS or other mining cadastre application software. During a follow up visit to this division, staff were found to be manually entering mining license information into ArcGIS and MS Excel. While the entry of data into Excel was taking place on the DM computer, the entry of data into ArcGIS was taking place on the personal laptop of one of the Division’s staff. The ArcGIS license does not belong to DM. This practice raises two serious issues.

- 1) Duplication of effort. DM staff are manually re-creating the same tabular and map data that CPDM has already entered into the mining cadastre in offices located only 50m away in another building, rather than simply requesting a copy of the data.
- 2) Security of data. This is the most serious issue of the two. Staff having unrestricted access to data for all mining licenses covering the whole country should be considered a major breakdown in the protection of data in an industry where data confidentiality is considered paramount.
- 3) Accuracy and currency of data. With ad hoc manual re-entry of data this is a high degree of probability that there will be variations in the data held within the two separate systems. Similarly, there will be delays in the two systems hold the same data at the same time as changes in leases and other information occur. This divergence of data between the two could lead to major operational problems in the field if DM officers in particular are working of inaccurate, out-of-date, data.

Figure 2: Mine License Data Manually Entered into Personal Lap-Top

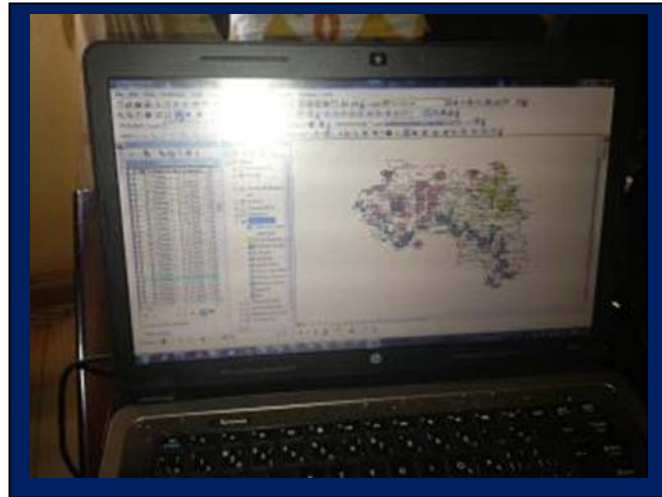


PHOTO: NOEL TAYLOR

The PAGSEM consultant report will include recommendations for separation of the mining cadastre from other MMG systems operations that should also be handled by separate systems, such as production data monitoring and reporting. It will state that the computerized mining cadastre should be an integrated system, in the sense that it should handle all scales of operations (ASM, semi-industrial, industrial) whether via mining or quarrying. PAGSEM anticipates that tendering for the new mining cadastre will be completed by the end of 2014, with commissioning of the new system possibly occurring by the end of 2015.

1.2.2 ASM LICENSE RECORDS MANAGEMENT

With DM's current ad hoc and unsecure approaches to computerization of valuable license data, it is critical that better procedures and security exist around the Division's paper records. Unfortunately, the paper records are managed only marginally better than electronic data. The ASM Division is responsible for granting ASM licenses, monitoring their renewal and retiring records for expired licenses. An exact number – let alone a close estimate - of current valid ASM licenses could not be provided during the two meetings held with division staff.

When asked if PRADD II staff could visit the office where license records are held, the Director of the ASM Division opened the drawers of a desk in his room, along with a steel cupboard (Figure 3), to reveal all license records. There is no structured indexing of records in place, where one could reasonably expect them to be indexed according to location and the date on which licenses were granted. The Director of the Division also then showed PRADD II staff where expired licenses were stored, given that there is seemingly a law in place that requires these records be kept for at least five years after expiration. The majority of these records were simply stored on a table at the end of the verandah of the DM building, covered by cardboard boxes (Figure 6). Within their existing storage and management environment,

current and expired licenses are at risk of destruction by fire and other natural disasters, civil unrest, and other wilful damage.

On the second floor of the DM building there is an area at the end of the building that been partitioned off by a lockable steel gate, but only on one side of the verandah, and sealed from the elements to a small degree by a tarpaulin. Records stored in this area are better organized, with many in boxes and wooden cupboards (Figure 4), but many are still kept randomly in cardboard boxes. A large number of the documents in this area were dated back to the mid-1990s, with some in the 1980s. These included ASM related documents dating back to 1995.

Figure 3: Storage of Current ASM Licenses



PHOTO: NOEL TAYLOR

1.2.3 HUMAN RESOURCES

The current human resources capacity for computerized mining cadastre operations within DM is considered low to non-existent. During discussions with DM and ASM Division staff it was widely agreed on that there are very few staff with even basic IT skills, let alone those that would be expected of staff working with a computerized cadastre. Aside from the older age profile of staff within DM, a lack of training and general exposure to IT were reasons held up for this lack of capacity. Staff within the ASM Division would like to see this combination of issues addressed in the near term, particularly when DM starts recruiting new staff for delivery of services in mining regions outside Conakry, where there are insufficient resources for proper monitoring of ASM mining operations.

1.3 CONSTRAINTS WITH THE PARCELING APPROACH

Despite the positive attitude with which ASM Division staff discuss the DM's approach to parceling of zones formally declared subject to ASM activities, the reality on the ground in Forecariah paints a very different picture. Within the 105ha zone, so far only five of the 1ha plots have been formally licensed out to Masters. Price (GNF2.5m) has been held up as one contributing factor in people shying away from applying for a formal plot license, as has uncertainty over production potential. Both of these factors were raised during the ASM parceling and production monitoring workshop conducted by PRADD II in February 2014.

With its current approach to parceling, the Government of Guinea (GoG) is effectively treating newly declared ASM zones as greenfield sites, despite the fact that ASM activities may already be underway, albeit informally. This approach is likely to immediately alienate miners operating informally, and with inadequate DM resources to police these sites, informal mining is sure to continue. This is exemplified by what is now happening in Forecariah within the formal zone. Customary owners have taken up three of the five formally licensed plots, then subsequently subdivided those into smaller plots of 16m² and 25m². These plots, or trenches, are then leased out by the communities at GNF 50,000 per year. Diamonds found at these sites are not necessarily formally reported, and the Anti-Fraud Brigade knew nothing of this when asked.

The DM does not appear to be re-thinking the overall concept of parceling large quadrangular zones. Rather, the directorate is concerned about the cost of parceling and suggests that parceling be tied to production potential. For this reason, they are very interested in diamond production analysis. It is

unlikely that the PAGSEM will question this approach as it aligns with reflections around the roles of “cadastral units.”

Despite customary surface tenure rights being protected by the Land Code and Mining Code, the current state of play appears to have the Government’s control of subsurface rights trumping surface rights. There has been no mention made of formalizing existing customary rights, let alone simply documenting them, in Forecariah in the ASM affected areas. This calls into question how the Government knows which communities and individuals should receive compensation and the economic development benefits that the legal framework states is supposed to flow to these parties.

Figure 4: Status of ASM Archives



PHOTO: NOEL TAYLOR

The actual processes and technical methodologies adopted for parceling and granting of licenses in ASM zones further constrains the DM’s ability to effectively and transparently manage the mining cadastre, and hence formal diamond mining, in these zones. While CPDM generates the map of the declared ASM zone with 1:200K cartographic data, combined with GPS observations for setting boundary point coordinates, the ASM Division uses no GPS or other modern measurement technology in subdividing the zone into smaller plots using 1:5K data. Plots are set using dimensions of 100m x 100m or 50m x 200m, with concrete plaques stationed at the corners. No coordinates for these points are recorded, or provided in the description of the plot provided in the license.

When it comes to numbering of plots, a sequential number is assigned to each plot within the larger declared area, with the name of the sector added as its prefix. These numbers are referenced by Masters in their applications for licenses that are submitted to the ASM Division. These application letters form part of a standard bundle of supporting documentation required, but the application letters themselves are not standardized. Instead, they are written in freehand. The bundle of required documentation from legal entities is not yet established in regulations or technical instructions, even though the Mining Code permits applications from such entities.

Despite Masters referencing the plots they are applying for, up to a maximum of three, the ASM Division informed PRADD II staff that the plots in Forecariah were assigned by lottery. The legality of this approach is not clear since the procedure for granting the licenses is not spelt out in the Mining Code, but it does raise the question of why Masters are required to identify their preferred plots in their application letters.

Another critical issue hanging over the current parceling approach is the availability of government resources for enforcement of the license conditions, monitoring and reporting of production, security of the site, etc. Rather than having the requisite government staff in place prior to declaration and parceling, or utilizing customary landowners for some of the roles, ASM activities have been ongoing for several months.

2.0 INFORMATION MANAGEMENT ACTIVITIES

Due to the planned assistance from PAGSEM for modernizing and strengthening the mining cadastre as a whole, not just the ASM sector, and the scale of that assistance, this consultancy shifted its focus to area where USAID assistance could still result in a significant impact on ASM operations for MMG. This section lays out recommended activities for implementation by PRADD II to help improve the administration of artisanal mining operating licenses, artisanal mining production data, support for USGS in the collection of geological and geomorphological data, spatially based data collection for M&E purposes, and strengthening the protection of surface tenure rights in areas where ASM is being carried out. Supporting human resource capacity development, which is integral to the long term sustainability of these information management activities, is also highlighted as an area for possible PRADD II interventions.

These activities are at the stage of initial conceptualization, with additional analyses and assessments required for their final design and implementation. They have been initially conceptualized as distinct standalone interventions to reduce programmatic impact if one or more of them are unattainable or fail during implementation. Once successful implementation is achieved they could be further integrated over the duration of PRADD II.

2.1 IMPROVED ADMINISTRATION OF ASM RECORDS

As previously outlined, the commissioning of the new mining cadastre system is expected to occur no earlier than the end of 2015, according to the PAGSEM consultant. In the meantime, the issues raised in this report with respect to security and transparency of ASM license data, including how they are physically stored and managed, still need to be addressed. To address these issues, three separate, yet complementary, areas of recommended PRADD II assistance are described below.

2.1.1 ASM LICENSES PHYSICAL ARCHIVES IMPROVEMENT

The current approach of the ASM Division to the physical storage of its current and expired license documents is not satisfactory when it comes to the security of data of protection of records themselves. Recognized good practice internationally is the storage of such paper documents within a dedicated archives room, with restricted entry to authorized personnel only. Storage space should be chosen to reduce risk of damage from natural elements and hazards, civil unrest and other wilful damage.

From the brief examination of the expired license documentation and other records, it is clear that the ASM Division has no idea of how many records it has in its possession, and whether many of those records are still actually required to be retained or destroyed.

It is recommended that PRADD II rapidly undertake a physical archives improvement activity, which may or may not require non-local STTA depending on the availability of expertise locally. The key recommended elements of this activity include:

- Review of GoG and MMG archive retention requirements to establish exactly what documents DM must retain, and for how long.
- Assignment of a dedicated archives room within DM. If no space exists within the current office space, a small scale refurbishment of the existing records storage area on the second floor verandah would be required to seal that space.
- Procurement of basic fire prevention equipment for the archive room.
- Procurement of steel shelving, cardboard folders, cardboard storage boxes, label printer, and other supplies for arranging and storing paper records.
- Procurement of a low volume office document shredder, and possibly a lockable fire proof safe for current ASM license documents.
- Development of written DM Document Management Guidelines.

It is recommended that a short consultancy be arranged for a records management specialist to finalise the recommended procurements. This could be mostly done remotely so that procurement could occur before that specialist provides input in-country to help establish the archive conversion line, provide training, etc. This specialist would also work with DM in introducing new procedures for indexing existing paper records, and capturing them in a written circular/instruction.

2.1.2 ASM LICENSES REPOSITORY

In concert with improving the storage and management of physical records it is recommended that the ASM Division be provided with assistance to move towards a digital work environment. Not only will this contribute to greater security of ASM licenses, but it will also help build the Division's capacity and staff acceptance of working with computers, which will be critical for successful uptake of the new mining cadastre system.

The conversion of ASM licenses is the logical starting point in this move to a digital environment as it provides the Division with a toolset to help manage ASM licenses, along with an information base in digital form that can be migrated to the new mining cadastre when operational. The latter will need to happen in any case in order for the mining cadastre to serve ASM sector needs. It is important to distinguish that the digital ASM license repository is just that, a repository, it does not replace the manual processes or paper records the Division currently uses.

It is recommended that PRADD II coordinate with the ASM Division to further plan out the technical needs of this activity, and the assignment of Division staff resources to undertake the document conversion itself. By undertaking this activity, the ASM Division will create a database of all existing licenses, in both textual attribute and map forms. The repository will allow easier searching of records to see which ASM sites have mines where license renewal royalties have not been paid, enabling more

efficient assignment of resources to collect the associated revenues. Integrated with simple GIS mapping capabilities, the Division will also be able to view geographically licenses in ASM declared zones.

The activity would concentrate on scanning and indexing all currently valid ASM licenses (diamonds and gold) and the associated bundle of documents submitted with license applications. The bundle of documents that would be scanned and indexed includes:

- Application letter
- A copy of the applicant's national ID card
- A copy of the applicant's residency card
- A photo of the applicant
- Bank receipt issued after payment of license fee/royalty
- ASM License to Operate issued by ASM Division (Annex B for sample)
- Copy of the plot location on the index map prepared by ASM Division (Annex C for sample).

In addition to the scanning and indexing of data outlined above, the activity is expected to comprise the key components listed below. It is likely that non-local STTA will be required for some aspects of this activity.

- Procurement of off the shelf document management software that can be easily customized to capture the required document attributes and properties for later migration into the new mining cadastre. Should include RDBMS software (e.g. SQL Express) for integration with GIS software.
- Procurement of a digital camera with a copy stand, similar to what was purchased for LARA, and a number of ILS projects.
- Procurement of one small desktop server, UPS, two laptop computers for data entry and checking, digital camera and tabletop copy stand, printer, office furniture, and associated equipment and cabling for a small network.
- Creation of GIS maps for all ASM parceled zones, and assignment of relevant plot numbering schemes.
- Training of ASM Division staff on small scale scanning and indexing production line.
- Subscription to the Carbonite back up system for at least 2 years for the duration of the ASM repository system

A rough order of magnitude on the estimated cost for this activity is a budget of \$50,000-70,000, inclusive of STTA.

2.1.3 ASM LICENSES PORTAL

In line with its obligations under the Extractive Industries Transparency Initiative (EITI), Guinea currently has a web portal (<http://www.contratsminiersguinee.org/>) where all mining contracts can be found. Created with assistance under the ResourceContracts.org project, this website is not GIS enabled, nor does it cover the ASM sector. By contrast, many other countries in Africa have what are held up as EITI compliant portals that cover both industrial and small scale mining sectors (see Figure 5).

As an extension of the creation of the ASM License Repository, it is recommended that PRADD II examine the possibility of working with DM to create an ASM License Portal. Not only would the license details be viewable online, but so would the supporting documents behind the license and the map of license location. This is likely to also serve as a first step towards extending the MMG's existing website for publishing contracts to include map and other geospatial data.

DM does not currently have the in-house capacity to maintain such a portal, so alternative hosting and management arrangements must be taken into consideration. Since PRADD II will be assisting the ASM Division

in creation of the ASM License Repository, PRADD II may serve as an interim hosting and management solution. Alternatively, PRADD II may consider approaching ResourceContracts.org to determine whether such hosting is something they could also support.

It is expected that the development of this portal could require non-local resources if a local vendor with adequate experience is unavailable. Although similar portals are available off the shelf from vendors such as Spatial Dimension, these portals would normally be associated with an enterprise level mining cadastre. This would be considered overkill in this case. A rough order of magnitude on the estimated cost for this activity is a budget of \$30,000-\$50,000.

2.1.4 MOBILE APPLICATION FOR ASM PRODUCTION DATA

To further improve efficiency in production data reporting from the field, and contribute to strengthening of the KPCS, it is recommended that PRADD II provide the ASM Division with an easy to use mobile data collection toolset. Tetra Tech ARD's GIS unit could configure as it has done on many recent projects, the existing the off-the-shelf ePORT application to enable DM staff in the field to use a mobile platform (smart phone or tablet) to capture the same information that is currently captured on paper (Annex D) and sent manually to Conakry. Functionality for diamond and ASM activities would be provided.

In addition to capturing the tabular information at the site, the application will also capture a photograph of the paper form itself, which is signed by the requisite parties. Photographs of the diamonds themselves could also be taken at this point. In the future, the functionality of this mobile application could be

Figure 5: Mining Cadastre Portal Example

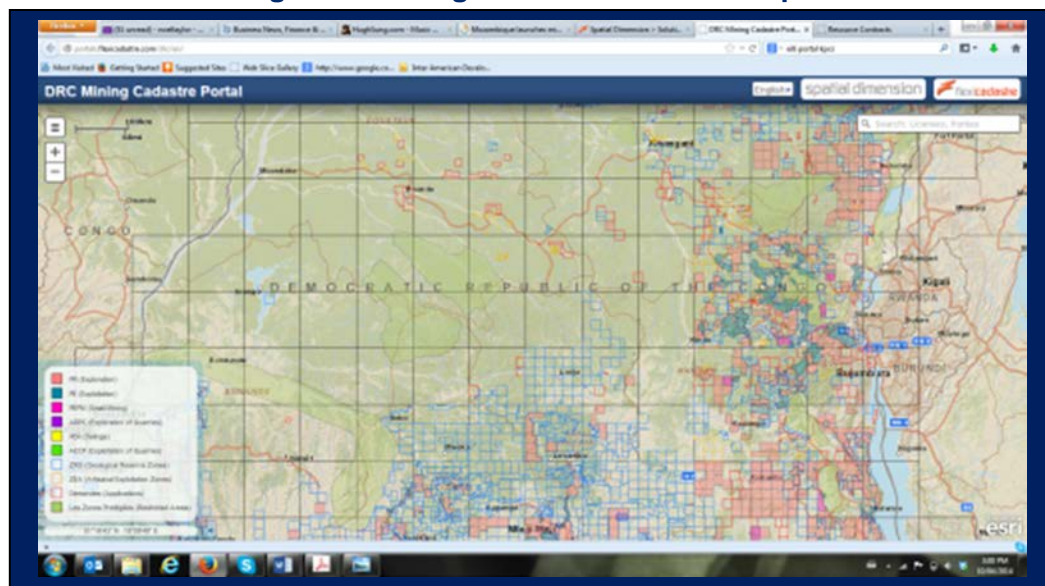


PHOTO: NOEL TAYLOR

extended to scan barcodes if they are fixed to sealed collection bags for further improvements to tracking the chain of custody for ASM diamonds.

ePORT has the ability to export data in XML or MS Excel formats. The latter will be of use to the ASM Division for consolidated reporting across all ASM zones, while providing the ability to regularly report production down to the individual mine site level. This will allow great flexibility in the sorts of statistics reports being generated than is currently the case (Annex E).

This activity will require STTA to be provided by staff from Tetra Tech's Geospatial Technology Unit (GTU) for the configuration of ePORT, and provision of training to PRADD II and ASM Division staff. For PRADD II proof of concept purposes, it is expected that DM or ASM Division staff working onsite would be provided with smart phones or tablets purchased by the project. While the application does not need cellular coverage for collection of data in the field, it does need this connectivity for synchronization of data back to the cloud. This will affect the selection of mobile coverage provider. Once proof of concept has been achieved in Forecariah, PRADD II may consider scaling up this assistance to other ASM sites around the country.

2.2 SUPPORT TO USGS DATA COLLECTION INITIATIVES

As part of the coordination between PRADD II and USGS, USGS will help develop geological models of the diamond potential in Forecariah. In order to do this, PRADD II may be able to assist USGS by collecting basic descriptive information about the mine sites and demographic information of miners per site. At the most basic level, data collection would include the exact dimensions of each pit with GPS coordinates, ground photos (from multiple angles), data on the exact thickness of overburden, thickness of gravel layer, size fraction of the gravel extracted as well as the presence and relative abundance of other minerals (such as ilmenite).

The Tetra Tech GTU would configure ePORT to capture the necessary information and share directly with USGS via the cloud. In addition to these configuration efforts, PRADD II would need to procure smart phones and/or tablets, along with mapping grade GPS/GNSS units. Given that some trenches are only several meters wide, the GPS/GNSS units would ideally have sub meter accuracy. Although PRADD II has inherited many Garmin GPSMap 76CSx units from the first phase of PRADD, these are recreation grade navigation units only. Positional data from phones and tablets is also unlikely to be adequate for this activity, so it is likely that this will require additional configuration of ePORT beyond its current standard positioning functionality.

2.3 FORMALIZATION OF CUSTOMARY TENURE RIGHTS

One of the greatest challenges currently facing PRADD II in Guinea is ensuring an equitable balance between Government's desire to develop and increase formality within the ASM sector, and the need to protect the customary tenure rights of existing communities and individuals in ASM zones. Achieving the latter should also lead to more transparent wealth distribution, and economic development, stemming from the former. Unfortunately, to date, there has been very little discussion on this topic within government circles. PRADD II therefore is ideally placed to help stimulate and support the GoG and other stakeholders in bringing the issue of surface rights to the fore.

Based on the positive discussions and outcomes resulting from the meeting with the Ministry of Agriculture (MoA) Rural Land Resources Service (RLRS) conducted during this consultancy, it is

strongly recommended that PRADD II undertake a phased approach to promoting and implementing formalization of customary surface tenure rights. For PRADD II, assistance would be centered on a multi-stage pilot in Forecariah. The proposed high levels of this activity are described below.

As a first step in raising this issue to the highest levels of government, it is recommended that PRADD II support RLRS in coordinating a multi-stakeholder Workshop on Implementing the National Rural Land Policy. A long list of potential attendees was developed during the meeting with RLRS. It included representatives from GoG, NGOs/CSOs, private sector players, and other donors such as the World Bank and the French Development Agency (ADF).

A key objective of the workshop would be the formation of thematic working groups that would conduct more in-depth analysis of topics and issues constraining the implementation of the national rural land policy. Examples of these topics include, but are not limited to, deficiencies in the current Land Code for tenure formalization in the rural context, conflict between provisions in the Land Code and Mining Code, and formalization of customary tenure in ASM zone. The latter is where PRADD II has an existing mandate from USAID to assist GoG, so it is a logical entry point for a pilot in Forecariah.

The first phase of the pilot in Forecariah should be restricted to a small number of villages or communities (up to 30% of total population) affected by ASM. PRADD II would coordinate with DM and RLRS to identify the entire zone that GoG classifies as having ASM production potential, not just the initial 105ha zone that has been parceled. This will serve to identify all communities affected, even if not all their land falls within the zone.

Within the sample population, PRADD II's M&E team will conduct a knowledge and attitudinal survey (KAP) that will establish the level of actual understanding amongst the community with regards to tenure formalization, i.e. the costs, procedures, evidentiary requirements, etc., and their perceptions of benefits or disadvantages stemming from tenure formalization. Findings from this survey will guide the content and messaging approaches associated with community outreach and education that PRADD II should support the Government in conducting both prior to, and post completion of, the formalization activity.

PRADD II will then work with the RLRS in designing pragmatic procedures and standards for conducting an inventory of land, rights and claimants in the sample population of the pilot region. For example, mapping level accuracy requirements for plot delineation would be promoted, as would the ability to use verbal testimony in support of land claims as opposed to strict requirements for paper documentation to prove rights. In parallel with this inventory, PRADD II staff would assist in mapping existing land use and some additional socio-economic data that would assist in longitudinal impact evaluation studies.

On completion of the testing in this sample population, it is expected that procedures and processes will be refined based on lessons learnt. The development of a Tenure Typologies Matrix during this process will also enable the creation of a decision tree based formalization process that results in increased efficiency and productivity when tenure formalization is scaled up across the entire zone.

Affected communities should be encouraged to formalize rights across all their landholdings, not just those falling within the ASM zone. This will underpin greater consistency in how land transactions are conducted within the community once formalization is completed, as opposed to having some land falling within formal government procedures and some not. To ensure formalization remains current, PRADD II and RLRS will need to focus on education within the community to ensure new transactions are captured. GoG capacity to provide formal land administration services must be evaluated from the outset of this

activity. If there is a lack of capacity within MoA and RLRS, consideration should be given to building the capacity and knowledge within existing customary structures to provide these services on behalf of government.

Lessons learnt from the Forecariah pilot should be documented and shared back to stakeholders via the thematic working groups. This could see similar approaches and methodologies being applied to rural land formalization in areas where natural resource management and agriculture are the other sectors impacting on customary tenure rights.

2.3.1 APPROPRIATE USE OF TECHNOLOGY

Modern technology has the potential to play a significant role in support GoG efforts in rural land tenure formalization, however it must be applied at an appropriate level of complexity, cost and sustainability. Guinea does not currently have a rural land cadastre, so any outputs from the Forecariah pilot will provide a foundation level dataset that must have the ability to integrate into a national system over time. It is therefore inevitable that there will need to be some level of investment into infrastructure and capacity building at either a central or decentralized government level for the storage and management of cadastre and ownership registry data created through PRADD II assistance.

It is recommended that any tools used by PRADD II for the Forecariah tenure formalization activity be compliant with the ISO standard Social Tenure Domain Model (STDM) or Land Administration Domain Model (LADM). And while mobile platforms and applications can be considered an appropriate toolset for the initial inventory of rights, claimants and properties, a more robust environment will be needed for back office hosting and processing of transaction data over time.

One option for reducing capital expenditure on developing an enterprise level system within the RLRS is for Guinea to become an early adopter of a cloud based land administration information system. Providing decentralized land administration services, whether via government resources or existing customary structures acting on behalf of government, with mobile platforms and cloud based application software would significantly reduce the need for traditionally expensive terrestrial computer networks and associated software solutions.

Conceivably, the RLRS Headquarters in Conakry could be provided with a local cloud server, which would in turn receive data generated on the platforms and applications distributed to a decentralized land administration service provider. There are many risks associated with this approach however, such as HR capacity to manage and maintain the server, reliable power supply, and stable, high speed internet connection.

A more risk averse approach would be to outsource most of the IT aspects associated with maintaining the software and infrastructure associated with the provision of these services, i.e. software as a service and infrastructure as a service. Infrastructure in this sense refers to the servers and other peripherals associated with hosting the software (application and database) and data.

It should be noted that this is still very much an emerging area of focus within the land administration sphere, but there is one entity that could deliver these services for Guinea in line with the timeline that it would likely become a viable topic of discussion. MapMyRights is a newly formed foundation that is receiving support from Omidyar Network to facilitate the provision a worldwide freely available, extensible, scalable, easy-to-use data rich platform for recording land (and marine) rights, land use and

other land information for public viewing and management. Value added services, for which fees would be payable, would also be available for entities such as national land agencies that choose to use MapMyRights to replace their traditional back office systems.

It is understood that USAID, via the Evaluation, Research and Communication (ERC) Project, is in the early stages of developing a mobile application based on STDM for use in a pilot project in Tanzania. It is strongly recommended that Tetra Tech request a sharing of lessons learnt and initial design ideas from the ERC Project. This should help expedite solution development for PRADD II, and reduce the risk of competing tools being developed with USAID funding.

2.4 LOCATION BASED INFORMATION FOR M&E

There are multiple activity recommendations coming from this consultancy that result in the generation of location based data for PRADD II stakeholder purposes. At this stage, only the project itself has the technical capacity to be able to integrate, manipulate and analyze all the data coming from these sources. To that end, PRADD II itself should ensure that it has the required software and skills on hand to consolidate data from these multiple sources into a GIS enabled information repository.

This consolidated data will also be supplemented by data that PRADD II captures for its own programmatic operations, particularly M&E. The PRADD II team plans to capture additional information such as production data and socio economic profiles from informal miners, in addition to a host of other indicators tied to PRADD II's PMP. When these data requirements are finalized, it is recommended that the Tetra Tech GTU work with the M&E team to identify whether another instance of ePORT configuration is required to support data collection and reporting for the project's own purposes.

2.5 CAPACITY BUILDING

Based on observations made during this consultancy, the importance of PRADD II contributing significantly to stakeholder capacity building cannot be overstated. A relatively easy, and highly recommended, starting point would be the conducting of training workshops covering LTPR concepts and case studies, such as those which USAID has previously supported in Liberia and elsewhere globally. This will provide GoG staff with a foundation of knowledge and understanding of LTPR issues, and lessons learnt internationally, when needing to develop strategic solutions to Guinea's own LTPR issues. It is recommended that these training workshops be conducted as a pre-cursor to the Workshop on Implementation of the National Rural Land Policy.

It is recommended that PRADD II support the provision of general public sector management and strategic management training for middle level officers of DM, RLRS and the Geology Division, and attempt to institutionalize such training within MMG and MoA. With a view to introducing a greater level of sustainable technology use within the DM, RLRS and Geology Division, it is strongly recommended that PRADD II support multiple tranches of training courses covering basic, intermediate and advanced IT skills. These would be supplemented by training on specific software applications from PRADD II staff prior to commissioning of these tools.

ANNEX A: SCOPE OF WORK

Scope of Work

Noel Taylor

Assessment of the Mining Cadastral System in Guinea

Property Rights and Artisanal Development (PRADD II)

USAID Contract No. AID-OAA-I-12-00032, TO No. AID-OAA-TO-13-00045; Guinean Budget

Date of SOW: February 6th, 2014

Task Manager: Sebastien Pennes, PRADD II Senior Technical Advisor/Manager

1.0 Background

The USAID Property Rights and Artisanal Development Project (PRADD II) builds on the knowledge and initiatives of the PRADD I program in CAR, Guinea and Liberia. PRADD II assists fragile artisanal diamond producing states and communities to increase the volume of diamonds entering the legal chain of custody and to improve livelihoods of artisanal miners. It is the main instrument of the US government to support compliance with the Kimberley Process Certification Scheme. The program includes components of governance, land tenure and property rights, economic livelihoods and behavior change communication. Current activities are defined by the approved Inception Report covering the period until April 2014.

For the past couple of years, the Government of Guinea (GOG) has been opening and allocating new artisanal mining areas in the country to foster miners' organization and better comply with the KPCS regulations. The GOG decided to build upon its experience in Kerouane to carry out a process of demarcating mining claims in new artisanal mining areas, termed *parcellisation* (mining plots allocation demarcation). While the willingness to reform ASDM and strengthen internal control systems using a property rights approach is to be commended, the actual implementation of *parcellisation* still has a lot of flaws, including the fact that this is so far a top-down approach, which does not take into account local customary tenure practices and field realities.

PRADD, in full coordination with the Ministry of Mines and Geology (MMG), World Bank-funded mining governance support program PAGSEM, and the USGS, is supporting the government's efforts to refine and improve this process of locating and delineating artisanal diamond mining sites. The objectives of this process are to reduce conflicts between miners and other land custodians, track production from mine to export, increase legal production (through a combination of claim demarcation and geological surveys), and protect artisanal miners' rights from industrial mining concessions and other possible large-scale owners.

This assessment of the mining cadastral system will be the last of a series of initiatives to evaluate the situation of artisanal mining in Guinea and to design specific PRADD activities for the four years to come. Other initiatives included an analysis of the Mining Code (voted in April 2013), two field diagnoses of the customary land tenure systems in artisanal mining in Kérouané and Forecariah (December 2013, January

2014), and a national workshop on land tenure, *parcellisation* and supply chain (February 2014). As such, it is the last exercise of the work planning process during the inception period from October 2013 to April 2014. It is therefore necessary to work very closely with MMG officials and PAGSEM.

The assessment will eventually aim at finding technical and technological solutions to organize the artisanal mining zones and track diamond production. However, those solutions exceed the boundaries of artisanal diamond mining. The assessment will thus take into account the significant weight of large-scale mining in the Guinean economy, which is one reason why artisanal mining is sometimes disregarded, and the presence of artisanal gold mining too. In agreement with the MMG, PRADD will use the assessment report to request quotes from land/mining administration firms in order to improve the MMG's internal controls system.

2.0 Scope of Work/Activities

Land Administration Specialist Noel Taylor will carry out the following activities during this assignment:

- 1) **Analyze the Strengths and Weaknesses of the Present Mining Cadastral System.** The assessment will find how mining data are collected, inputted, processed, archived, and used by the government.
- 2) **Evaluate the Information Database System of the MMG.** The assessment will look at the various ways the MMG collects, keeps and updates important mining information such as the list of registered miners, collectors (intermediaries), exporters, large-scale mining companies, the volume and value of diamond export shipments, the sales slips and production books.
- 3) **Evaluate Human and Technical Capacities.** The assessment will assess the needs for technological and capacity building support at the MMG. As part of the work planning process, it will propose a training plan and a procurement plan to improve the mining cadastral system and its maintenance.
- 4) **Design the Principles of an Artisanal Claims Administration.** Taking into account the results and findings from the "land tenure, *parcellisation* and supply chain" workshop as well as the above evaluations, the analysis will propose technical outlines for a sustainable administration of the artisanal mining areas.

Key Deliverable
<ul style="list-style-type: none"> Deliverable 1: Assessment Report (around 20 pages) on the mining cadastral system and proposed solutions to administer the artisanal mining areas. Delivery date: April 8th, 2014.

3.0 Oversight

The consultant reports to the Task Manager; he will work closely with Country Director Bocar Thiam.

4.0 Level of Effort

The level of effort for this assignment is around 20 days, based on a 6-day week, including travel (5 days) and home-based reporting (3 days).

5.0 Schedule

The assignment will begin on or about March 15th and end by April 4th, 2014.

ANNEX B: SAMPLE ASM LICENSE

MINISTERE D'ETAT DES MINES ET DE LA GEOLOGIE REPUBLIQUE DE GUINEE
Travail - Justice - Solidarité

ARRETE A/14 008 300 /MMG/CAB ACCORDANT UNE
AUTORISATION D'EXPLOITATION ARTISANALE DU DIAMANT ET
AUTRES GEMMES

LE MINISTRE

- Vu La Constitution ;
Vu La Loi L/2011/006/CNT du 09 septembre 2011, portant Code Minier de la République de Guinée ;
Vu Le Décret D/2010/007/PRG/SGG du 24 Décembre 2010, portant Nomination du Premier Ministre, Chef du Gouvernement ;
Vu Les Décrets D/2010/009/PRG/SGG du 27 Décembre 2010, D/2010/016/PRG/SGG du 30 Décembre 2010 et D/2011/002/PRG/SGG du 4 Janvier 2011, portant Nomination de Ministre ;
Vu Le Décret D/2011/254/SGG du 07 Septembre 2011, portant nomination des Cadres au Ministère des Mines et de la Géologie
Vu L'Arrêté Conjoint N° A/2008/3765/PRG/SGG du 10 Octobre 2008, fixant les taux des droits fixes et des taxes sur les substances de carrières ;
Vu La demande formulée par **MR. MOHAMED BERETE**, Exploitant de Diamant en date du 20/12/2013
Sur recommandation de la Direction Nationale des Mines

ARRETE

ARTICLE 1^{ER} : Il est accordé à **MR. MOHAMED BERETE**, Titulaire de la Carte d'Identité Nationale N° **4341588/11** Résident à Binikala une Autorisation d'Exploitation Artisanale du Diamant et Autres Gemmes d'une superficie de Un (1) Hectare (s) dans la Préfecture de Macenta.

ARTICLE 2/ : La présente Autorisation qui a une durée d'Un An de campagne renouvelable sera considérée automatiquement expirée si, avant la fin de l'année de campagne consécutive à l'échéance, le titulaire n'aura pas demandé le renouvellement de son Autorisation.

ARTICLE 3/- Ce Titre Minier est inscrit au registre des permis miniers d'exploitation artisanale ouvert à cet effet à la Direction Nationale des Mines sous le numéro 13/...../DNM /DEA et porte sur la parcelle N° **B-33** localisée dans la Sous - Préfecture de Macenta.

ARTICLE 4/ : Le titulaire du présent **Arrêté** est soumis aux dispositions du Code Minier, de ses textes d'application et aux obligations spécifiques ci-après :

- 4.1. La mise en exploitation de la parcelle visée par le présent Titre pendant sa durée de validité ;
- 4.2. Le respect du programme de lavage du gravier établi par le Service d'Encadrement de l'Exploitation Artisanale ;
- 4.3. La vente de la production aux Collecteurs ou aux Comptoirs d'achat dûment autorisés ;
- 4.4. La tenue par le titulaire d'un registre de production dûment approuvé par la Direction Nationale des Mines ;
- 4.5. Le paiement d'une redevance fixée à Deux Millions de Francs Guinéens par Hectare, **(2.000 000 GNF/Hectare)** et les frais d'instruction (frais administratif) fixés à Cinq Cent Mille Francs Guinéens **(500.000 GNG)** par hectare.

ARTICLE 5/ : Avant l'expiration de la période pour laquelle cette présente Autorisation est accordée, il pourrait y être mis fin, ou faire l'objet de retrait par l'Administration Minière de manquement par le titulaire aux obligations lui incombant en vertu de l'Article 4 ci-dessus.

ARTICLE 6/ : La Direction Régionale des Mines de N'Zérékoré, la Direction Préfectorale des Mines de Macenta,, la Division Exploitation Artisanale sont chargées chacune en ce qui la concerne de l'application du présent **Arrêté**.

ARTICLE 7/ : Le présent **Arrêté** qui prend effet à compter de sa date de signature, sera publiée partout où besoin sera.

Conakry, le **26 FEV 2014**

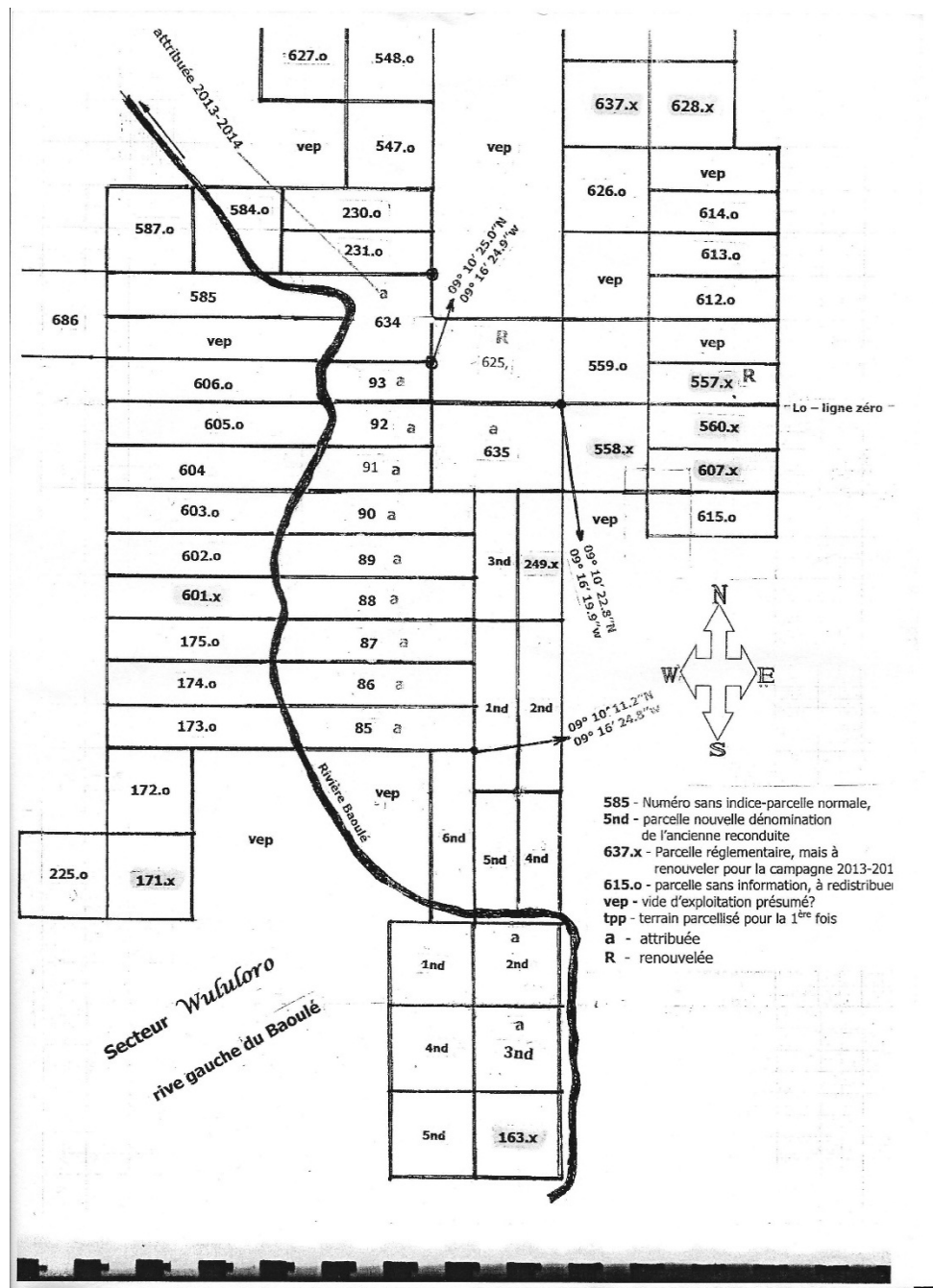
AMPLIATIONS :

MEF	2
MMG	4
DNM	8
DPMC/Macenta	2
INT/Archives	2/18

Kerfala YANSANE



ANNEX C: SAMPLE ASM PLOT MAP



ANNEX D: SAMPLE ASM PRODUCTION DATA FORM

REGISTRE DE LAVAGE QUOTIDIEN DE GRAVIER N° *P1* **/DEA/DN/20.** *13*

Nom *Kouyouma* Prénoms *Mory*

N° et date de l'arrêté

Nature du permis (octroi et Renouvellement) *Attribution* N° *00159*

Zones de permis *Lokouala / Bini Kala*

N° de (s) Parcelle (s) *B-15*

Date	N° du Lot	Spécification et poids des Diamants						Total		Observations de la plus grosse pierre du lot
		Joallerie		Industrie		Boarts		Nombre	Poids	
		Nombre	Poids	Nombre	Poids	Nombre	Poids			
<i>17-02-2014</i>		<i>8</i>	<i>6,35</i>	<i>9</i>	<i>8,72</i>	<i>3</i>	<i>5,61</i>	<i>20</i>	<i>20,68</i>	
TOTAL		<i>8</i>	<i>6,35</i>	<i>9</i>	<i>8,72</i>	<i>3</i>	<i>5,61</i>		<i>20,68</i>	

Observation sur la production journalière au verso avec projection des pierres caractéristiques

Le Titulaire du Titre ou ses représentants *[Signature]*

Le Chef de Zone *[Signature]*

L'Ingénieur chargé du Contrôle *[Signature]*

ANNEX E: SAMPLE ASM PRODUCTION STATISTICS

MINISTERE D'ETAT DES MINES ET DE LA GEOLOGIE

ANNEE 2011

DIRECTION NATIONALE DES MINES

STATISTIQUES DES PRODUCTIONS NATIONALES DU DIAMANT PAR PREFECTURE

Mois	Kérouané Poids	N'Zérékoré/ Macenta Poids	Kindia/ Forécariah Poids	Total
Janvier	21 187,19	4 579,13	3 356,77	29 123,09
Février	75 099,73	5 007,99	2 868,85	82 976,57
Mars	20 137,15	3 913,91	958,06	25 009,12
Avril	18 303,31	1 312,39	1 561,92	21 177,62
Mai	21 291,21	5 987,79	2 081,46	29 360,46
Juin	19 687,12	2 613,97	3 370,46	25 671,55
Juillet	17 983,05	1 401,01	2 625,99	22 010,05
Août	22 200,90	5 899,09	1 350,14	29 450,13
Septembre	2 491,09	1 811,13	715,35	5 017,57
Octobre	2 486,87	1 913,49	975,14	5 375,5
Novembre	9 348,17	2 000,19	1 288,85	12 637,21
Décembre	10 007,01	2 813,61	3 155,98	15 976,60
Total	240 222,8	39 253,7	24 308,97	303 785,47

Banankoro, le 05 janvier 2012

Le Chef de Division

Alkaly Yamoussa SOUMAH

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