EXPLORATIONS UNLIMITED

Woodlands Project

Alluvial Diamond Prospecting Programme

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Introduction

1.1. Background Geology

The Woodland project is located in the Parys District of the Free State Province, on the north-eastern limb of the Vredefort Dome (**Figure 1**)

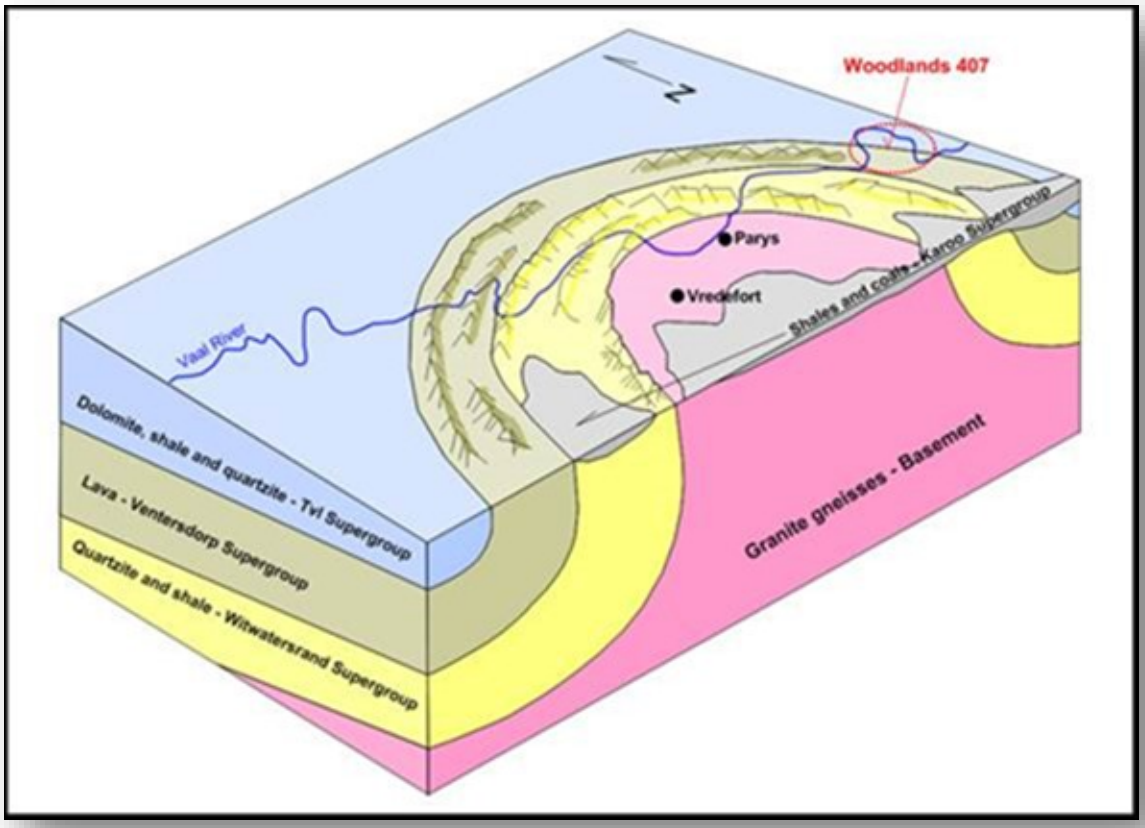
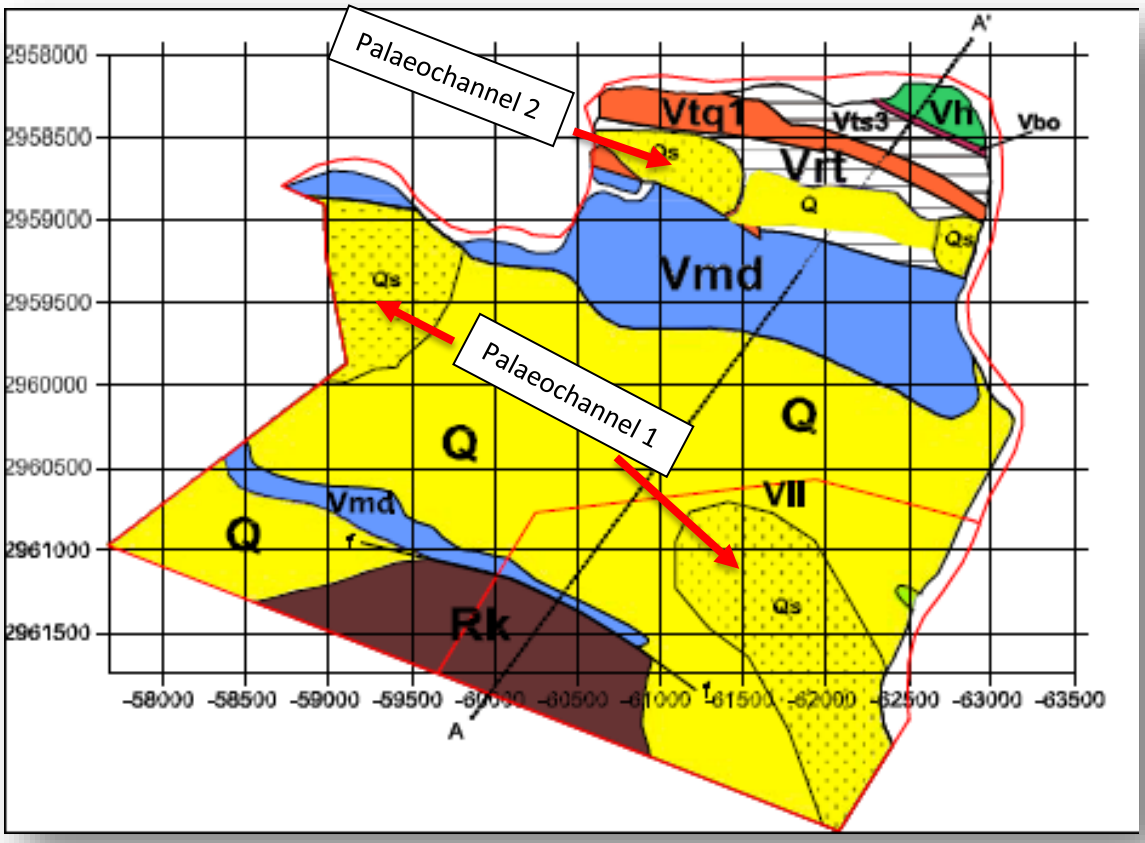


Figure 1 Location of the Woodlands alluvial diamond project, on the north-eastern limb of the Vredefort Dome (Erasmus & Turnbull, 2018)

The geological formations described on Woodlands ((Erasmus & Turnbull, 2018) are, from oldest to youngest (**Figure 2**):

Klipriviersberg Group (Rk).
The Klipriviersberg Group of the Ventersdorp Supergroup consists of volcanic rocks comprising basaltic lavas, agglomerates and tuffs. This unit unconformably overlies the Witwatersrand Supergroup and is locally estimated to be 3,300 - 3,600 m thick.

Malmani Subgroup (Vmd).
This sub-group overlies the Black Reef Formation conformably and consists of dolomites, cherts and chert-breccias. This unit is 1,200 – 1,500 m thick in the vicinity of Woodlands. The dolomites are usually covered by soft sediment but the more resistant cherts and chert-breccias are usually visible as prominent ridges. This unit covers the largest part of the subsurface geology on the project property and hosts the much younger, Cainozoic (Quaternary) alluvial deposits (sands and gravels).



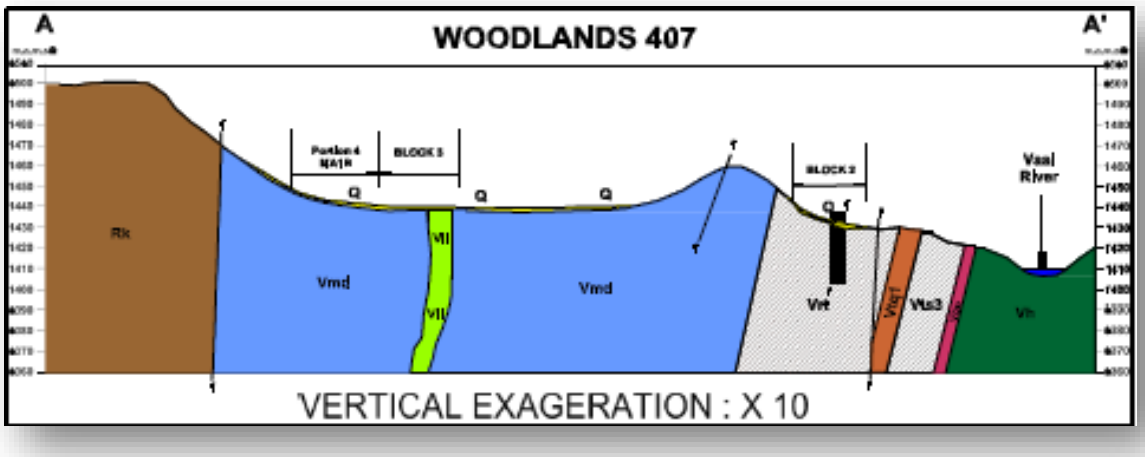


Figure 2 Sub-surface geology of Woodlands (above) and section A-A' (below) (Erasmus & Turnbull, 2018)

Lindeques Drift Complex (Vli).
This intrusive igneous complex forms an elongated body of some 11km in length and is emplaced within the Malmani dolomites (see cross section). It consists of lamprophyre, syenodiorite and albite-syenite dykes. Locally the dolomites may have been altered to marble by contact metamorphism with this intrusion.

Rooihoogte Formation (Vrt)
The Rooihoogte Formation unconformably overlies the Malmani Sub-group and is on average 10-150m thick. The thicker upper portion of this formation consists of shales and intercalated quartzites.

The Timeball Hill Formation (Vtq and Vts).
This formation overlies the Rooihoogte Formation conformably and is made up of a number of alternating quartzite and shale units. The quartzite ridges typically form prominent outcrops.

The Boshoek Formation (Vbo).
This is a thin (5-10m) unit of upward fining conglomerate that unconformably overlies the Timeball Hill Formation.

The Hekpoort Formation (Vh).
The Hekpoort Formation, comprising finely crystalline andesitic tuffs and lava flows with amygdoloidal zones unconformably overlies the Boshoek Formation.

Quaternary Sands (Q).
All of these older formations are overlain by modern unconsolidated quaternary sediments of waterborne and windblown sands (Q). These units vary in thickness between 10cm and 10m and are distributed in suitable sediment traps. There is evidence on the property for two Vaal River palaeochannels (palaeochannel 1 being older than palaeochannel 2). These deposits are delineated largely by the areas of prior and current sand mining.

2. Alluvial Diamond Potential

During the period 1922-1926, some 25,000ct are recorded as having been recovered from five farms located on the northbank[1] of the Vaal River in the vicinity of Woodlands (Marshall, 1987) (**Table 1, Figure 3**). On Kaalplaats and Zeekoeifontein, intermittent diamond production continued up until 1968 and 1973 respectively. No information exists regarding potential grades or diamond values.

Table 1 Diamond Production from nearby properties

Property	Carats Recorded
Boschdraai 575	135.75
Brakfontein 476	44.75
Bronkhorstfontein 566	266.45
Kaalplaats 577	11,147.89
Witkop 475	220.00
Zeekoeifontein 573	13,644.65

[1] Historical production figures for the southbank properties (such as Woodlands) have not been compiled in an easily accessible database due to differing administrative procedures in the SA Diamond Board for Free State properties during the early 20th century.

Figure 3 Location of properties where diamond recoveries have been recorded (Marshall, 1987)

The largest number of diamonds recorded historically (+13,000ct), were recorded from the farm Zeekoeifontein, which is located directly across the river from Woodlands, in the meander bend where Vaal Oewer is situated today.

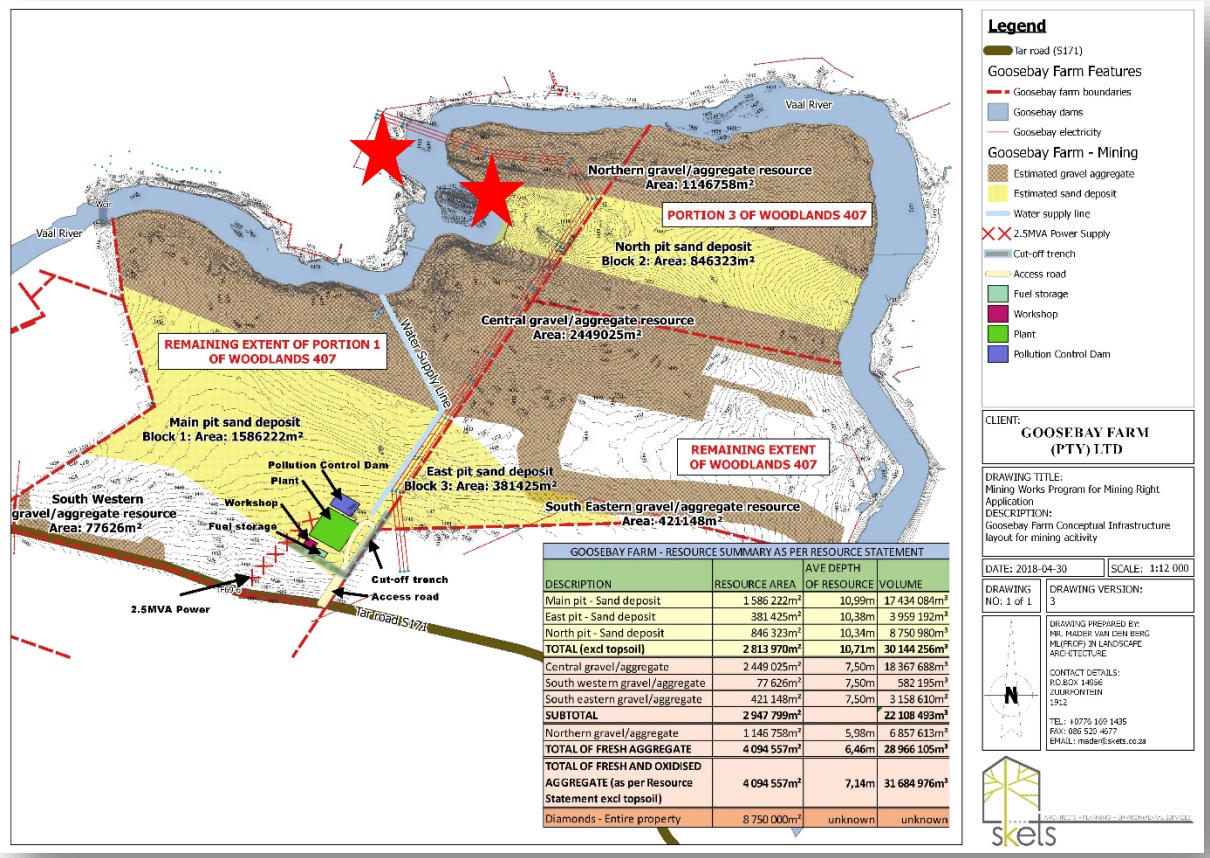
During a site visit in mid-June 2018, the author visited the banks of the Vaal River across from Zeekeoifontein and noted the presence of "diggers heaps" **(Figure 4**, see also **Figure 3** above for locality) and an old plant-site. The spoil heaps comprise rounded – well-rounded, pebble-cobble size, alluvial clasts that could, conceivably, date back to the mid-1920's. These diggers heaps prove that diamonds were recovered from the Woodland property, likely at the same time that diamonds were being mined elsewhere in the vicinity. The plant-site probably dates from the 1960's or 70's, indicating that gravels were still being processed there up until quite recently (as is the case on Zeekoeifontein and Kaalplaats).

What is most encouraging to note is that, both the old diggers heaps on Woodlands and the property with significant diamond production records are located adjacent to the North pit sand deposit (Block 2) on Woodlands (**Figure 5**). The implication is that alluvial diamond deposition is associated with the palaeochannel that deposited the sand.

In a meandering river system, such as the Vaal is seen to be at this location, the coarse-grained (gravel) units occur as channel lag deposits overlain by finer-grained, sandy point bar deposits **(Figure 6**). The point bar deposits would represent the silica sand deposits that are currently being mined on Woodlands, and the channel lag deposits would be the priority target for alluvial diamonds.

Figure 4

Diggers heaps (left) and old plant-site (below) indicating that diamondiferous alluvial gravels were mined on Woodlands historically (from 1922 up until the late 1960'2 or early 70's)



GOOSEBAY FARM - RESOURCE SUMMARY AS PER RESOURCE STATEMENT

DESCRIPTION	RESOURCE AREA	AVE DEPTH OF RESOURCE	VOLUME
Main pit - Sand deposit	1 586 222m²	10,99m	17 434 084m³
East pit - Sand deposit	381 425m²	10,38m	3 959 192m³
North pit - Sand deposit	846 323m²	10,34m	8 750 980m³
TOTAL (excl topsoil)	**2 813 970m²**	**10,71m**	**30 144 256m³**
Central gravel/aggregate	2 449 025m²	7,50m	18 367 688m³
South western gravel/aggregate	77 626m²	7,50m	582 195m³
South eastern gravel/aggregate	421 148m²	7,50m	3 158 610m³
SUBTOTAL	**2 947 799m²**		**22 108 493m³**
Northern gravel/aggregate	1 146 758m²	5,98m	6 857 613m³
TOTAL OF FRESH AGGREGATE	**4 094 557m²**	**6,46m**	**28 966 105m³**
TOTAL OF FRESH AND OXIDISED AGGREGATE (as per Resource Statement excl topsoil)	**4 094 557m²**	**7,14m**	**31 684 976m³**
Diamonds - Entire property	8 750 000m²	unknown	unknown

Figure 5 Location of historical diamond recoveries in the vicinity of the North pit sand deposit

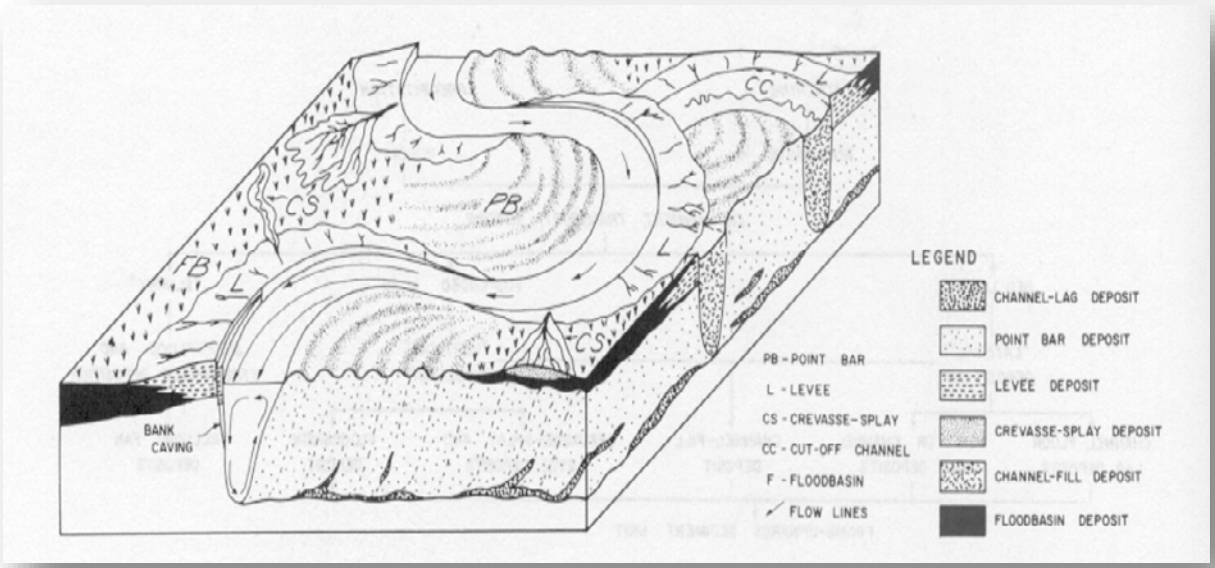


Figure 6 Schematic of point bar (sand) units overlying channel lag deposits

3. Prospecting Programme

As can be seen from **Figure 6** above, the channel lag occurs as a relatively thin, non-continuous unit located on the bedrock at the base of the sand deposit. Consequently, prospecting for this unit would be concentrated within the sand units that are already part of the mine plan. The north pit is the primary exploration target, with the main sand pit to the south being the secondary target.

The proposed prospecting for the basal channel lag is planned in a number of consecutive phases, each one being contingent upon success in the previous phase. The prospecting would proceed simultaneously with the sand mining and would not need to be a separate operation. The first phase of the prospecting programme would be Reverse Circulation (RC) drilling, to identify the presence and extent of the basal gravels on Palaeochannel 2 (**Figure 7**; also refer Figure 2 for location of palaeochannels)

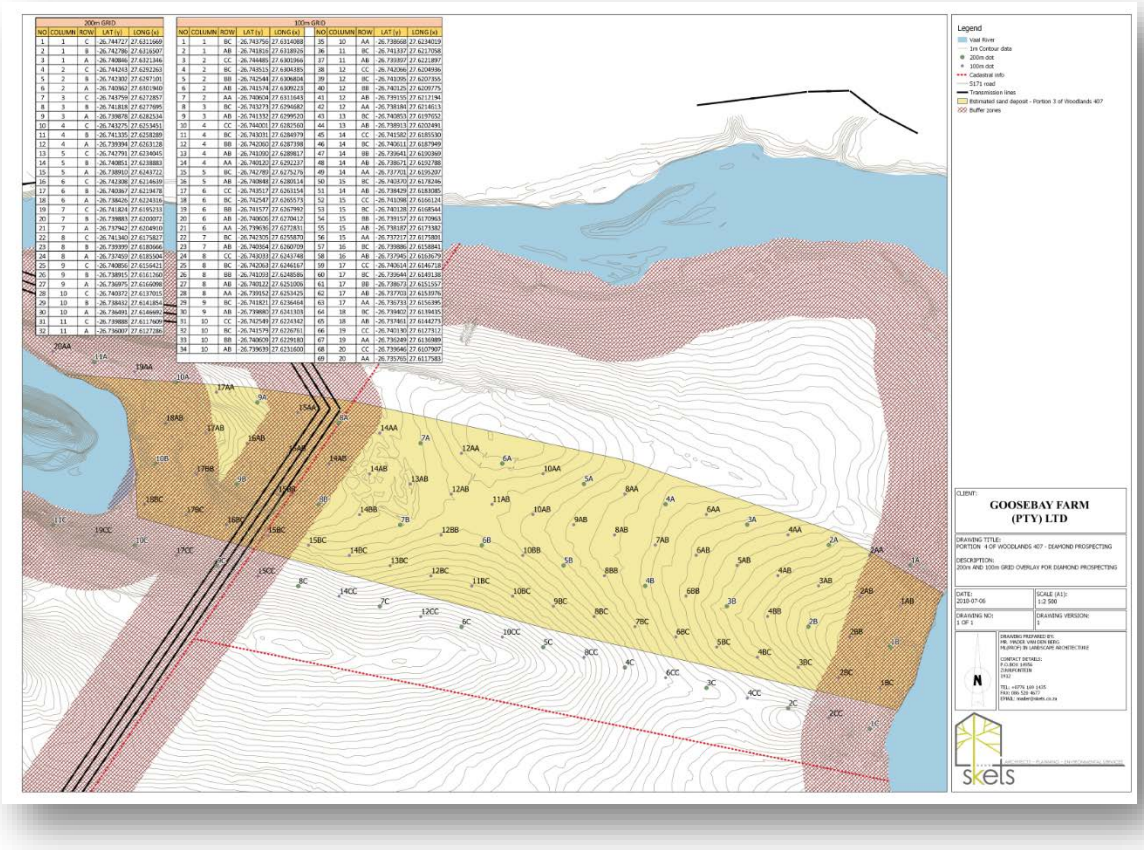


Figure 7 Location of proposed drilling grid on Woodlands (north sand block)

The initial drilling is planned on a 200m X 200m grid (32 holes at an expected maximum of 350m). Once channel lag gravel is encountered, the grid will be refined to 100m X 100m and 50m X 50m, to focus on establishing the extent (and/or potential available volume) of the gravel deposit to an Inferred Diamond Resource classification.

A similar drilling programme will also be planned for the drilling of Palaeochannel 1 (Ref Figure 2).

Once sufficient gravel has been located, it will be necessary to sample the material to get an initial estimate of diamond grade and value. Since it is not possible to assay for diamonds, the bulk-samples will, necessarily, be extensive. In order to estimate an Inferred Diamond Resource for the project, a minimum of 500ct[2] will need to be recovered during this exercise. The amount of gravel processed will depend entirely on the average grade and grade variability of the deposit.

The proposed flowsheet of the bulk-sampling is shown in **Figure 8**:

- The overburden is removed – the topsoil will be stockpiled as per the current programme for the sand mining and the sand is excavated and diverted to the current sand mining operation.
- The basal gravel unit is screened – the oversize is sent back to any open excavation as rehabilitation infill, the -2mm is forwarded to the sand mining operation and the +2-32mm fraction is stockpiled as plant feed.
- It is proposed that a rotary plan plant (double 12' plant) with scrubber be utilised as the sampling plant. This plant is mobile, easy to operate and very accurate for sampling. The process contains no deleterious or toxic chemicals and has limited requirements on both power and water quality/quantity. All of the plant waste can be trucked directly back to open excavations as part of the backfill. Some of the fines can be used as a surface dressing, prior to the return of the stockpiled topsoil and the rest can be stored in a small fines residue dam, from which water can be recovered for circulation back to the plant.
- The concentrate from the pans will then be conveyored to a final recovery circuit comprising of a single-stage FlowSort X-ray recovery unit, followed by hand-sorting in a secure facility.

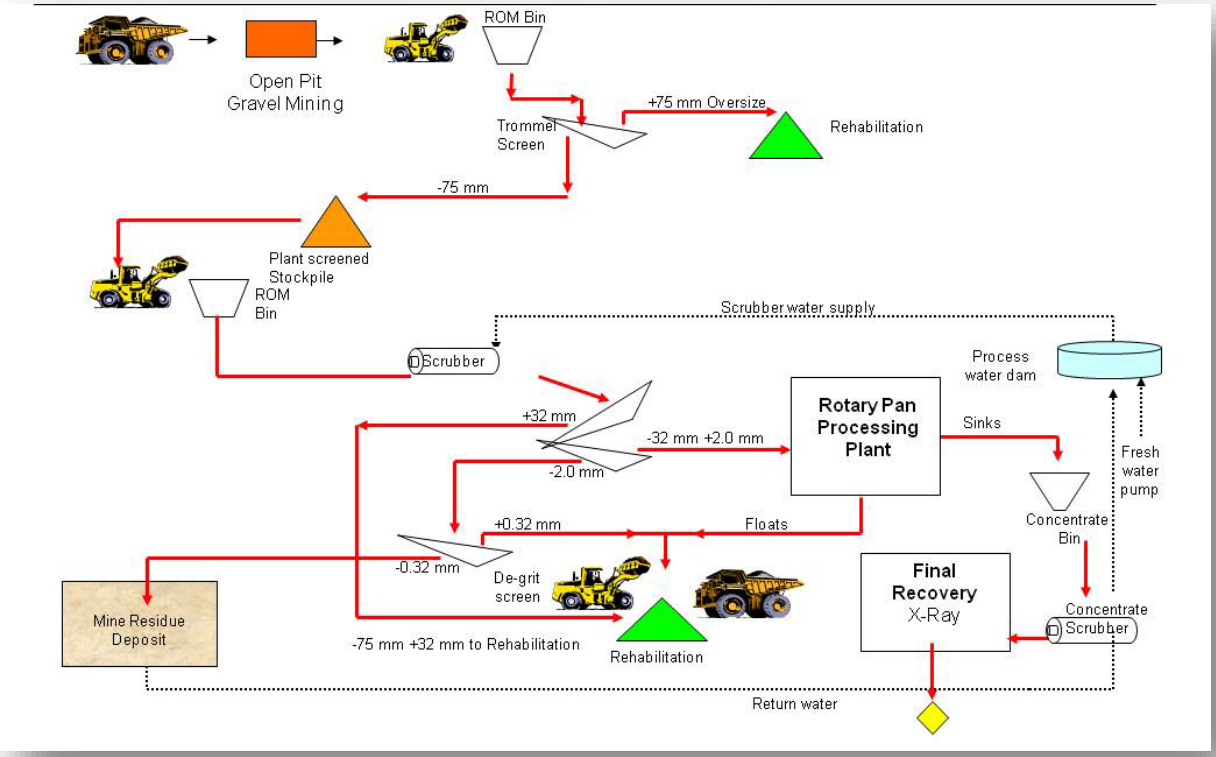


Figure 8 Proposed flowsheet for the bulk-sampling on Woodlands

[2] If an Indicated Diamond Resource is required, then a minimum of 2,500ct will need to be recovered for valuation purposes.

The advantage of this prospecting programme is that no additional excavations will be made outside of the planned sand-mining areas and that rehabilitation will fit in with the current schedule. The proposed sample plant (**Figure 9)** has a very small footprint and can easily be modified/upgraded to a full production system once the necessary volumes, grades and values have been identified and a Technical Study completed.

Figure 9 An example of the processing plant type proposed for the Woodlands bulk-sample

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26 July 2018

4. References

Erasmus, J., & Turnbull, S. (2018). *Goosebay Farm Resource Statement.* Johannesburg: Sumsare Consulting CC.

Marshall, T. R. (1987). Alluvial diamond Occurrences of the western and southwestern Transvaal, a compilation of production data. *Economic Geology Research Unit Information Circular 194*, p. 38pp.