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ATTENTION:
South African Heritage Resources Agency – Archaeology, Palaeontology & Meteorites Unit (SAHRA – APM Unit)

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SAHRIS CaseID 8818 –
NEOTEL OPTIC FIBRE CABLE, KATHU – NORTHERN CAPE.
FINAL REPORT: PHASE 2 ARCHAEOLOGICAL MONITORING, AREA 1 - ANALYSIS

CONTENTS

LIST OF DIAGRAMS

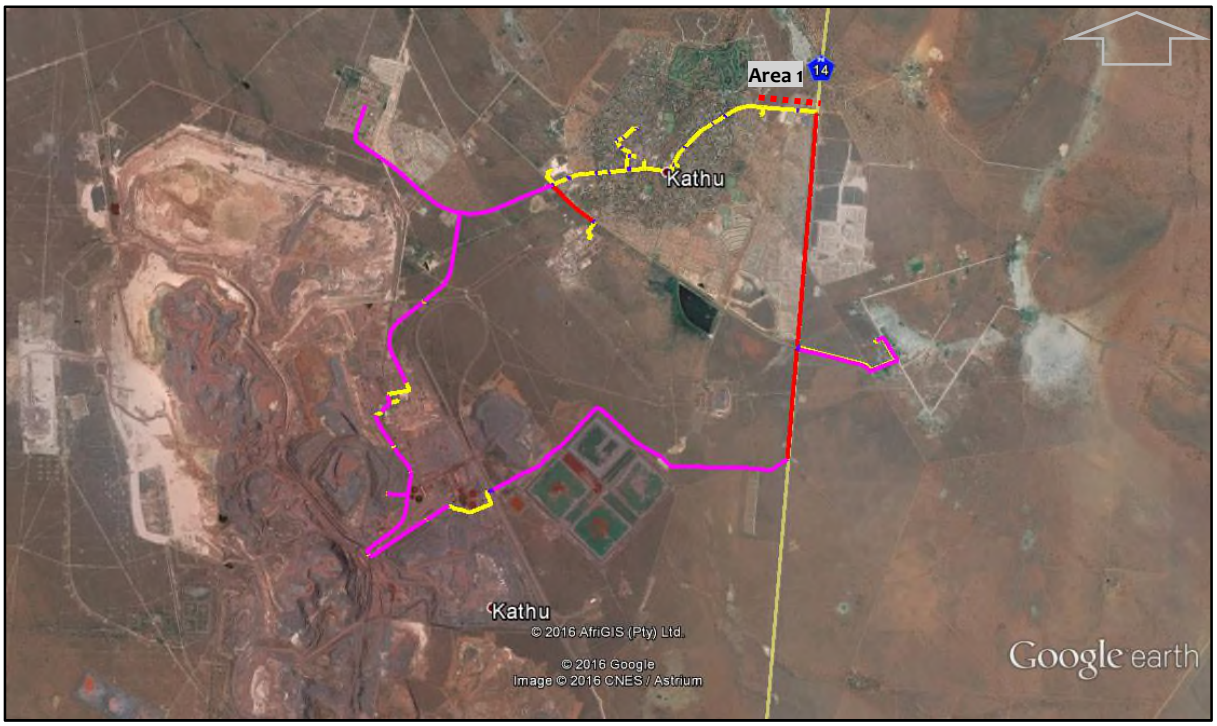
LIST OF MAPS

LIST OF PLATES

LIST OF TABLES

1) INTRODUCTION

This report serves as lithic artefact analysis component and final report on the Neotel Optic Fibre Cable, Kathu, Northern Cape, Phase 2 Archaeological Monitoring at Area 1. Area 1 constitutes an approximate 0.73km linear development, with the line route situated within the road reserve north of the access road, with the road reserve being an existing development corridor, cutting through the known Kathu Townlands archaeological site. Optic fibre cables are lain at approximately 1m below ground level (bgl). Monitoring was done over a three (3) day period, 1-3 June 2016, with an Interim Report submitted on the fieldwork, dated 18 June 2016. Monitoring was done by means of six (6) test pits, labelled KTP1.1 to KTP1.6, spaced approximately 150m apart and situated in the direct trench alignment.



Map 1: General map of the *Neotel Optic Fibre Cable*, Kathu, Northern Cape, development, indicating the locality of Area 1

2) TEST PIT RECORDING AND ARTEFACT ANALYSIS

- KTP1.1 - S27°41'26.2"; E23°03'52.6"

KTP1.1 comprised an already excavated manhole pit, with the installed manhole positioned immediately to the west thereof. The test pit, measuring approximately 1.5x1.5m in size was dug down to roughly 1m bgl. A low density artefact embedded calcrete boulder typified the north-eastern corner of the pit, with further calcrete nodules visible in the southern and south-eastern sections of the pit. Municipal service lines (water and sewerage) run through the northern part of the pit, with a telecom line development characterizing the southern section. KTP1.1 was dug into a basic Red Hutton sand context, constituting backfill material from former construction trench excavation. Upper levels of the test pit sections indicated greyish lens like admixture from road construction works. Artefacts from KTP1.1 were collected by means of trowel screening trough test pit dump material. Only nine (9) artefacts were identified within dump material.

- KTP1.2 - S27°41'26.4"; E23°03'58.2"

KTP1.2, a pick and shovel excavated pit, of approximately 1.5x1.5m in size and dug down to more or less 0.8-1m in depth, but with excavation halted due to sewerage leakage at the site, was characterized by municipal service lines running through the northern part of the test pit and a telecom line development typifying the southern extremity thereof. KTP1.2 was dug into a basic Red Hutton sand context, but with the Hutton sands comprising construction backfill material from former excavation work. Artefacts were collected as the test pit was dug and trowel screened from dump material. KTP1.2 yielded ninety-six (96) lithic artefacts, the highest number of artefacts collected from a test pit.

- KTP1.3 - S27°41'26.7"; E23°04'03.9"

KTP1.3, comprised a pick and shovel test pit, dug in the line route alinement, and measuring more or less 1.5x1.5m in size, dug down to roughly 1m bgl. Municipal service lines run through the northern part of the pit, with the southern part typified by the telecom line development. General context of the site can again be described as a Red Hutton sand context, being construction backfill material. Artefacts were collected as the pit was dug and trowel screened from dump material. A total of forty-four (44) artefacts were retrieved, making KTP1.3 the second richest test pit.

- KTP1.4 - S27°41'26.8"; E23°04'09.8"

KTP1.4 comprised a large area where municipal works exposed existing lines for repairs, and cross cutting the municipal service lines, the optic fibre cable alignment area and the telecom line to the south thereof. The pit measured approximately 2.5x1.5m in size and was dug down to below 1.5m bgl. Context of the pit comprised primarily Red Hutton sand backfill, but including also clayey soils and stabilization material from former construction works. No artefact horizon was visible within the fairly large exposed sections. Artefacts were trowel screened from sections of existing dumps. Nineteen (19) artefacts were identified from dump material, a notably low count considering the size of the pit associated dumps.

- KTP1.5 - S27°41'27.2"; E23°04'14.8"

KTP1.5 comprised a pick and shovel excavated test pit dug in the line route alignment, measuring roughly 1.5x1.5m in size and dug down to approximately 0.8m bgl, with the bottom of the pit typified by a convoluting hard calcrete member. No artefacts were identified within the calcrete, designating the level as the anthropogenic basal member. Upper levels of the test pit (~0-0.3m bgl) was typified by greyish road construction fill material, with the rough ~0.3-0.8m bgl member comprising *in-situ* Red Hutton sand. No service lines were present in the pit. Artefacts were collected as the pit was dug and trowel screened from dump material. Only five (5) artefacts were collected, all from the Hutton sand context of the pit.

- KTP1.6 - S27°41'27.5"; E23°04'20.2".

KTP1.6, a pick and shovel excavated pit, measuring roughly 1.5x1.5m in size was dug down to approximately 0.6m bgl when the convoluting hard calcrete member was encountered. Again no artefacts were identified in the calcrete, thus designating the level as the anthropogenic basal member. Uppermost levels (~0-0.3m bgl) were again characterized by greyish road construction material, with only a fairly thin layer (~0.3m) comprising *in-situ* Red Hutton sand context. Artefacts were collected as the pit was dug and trowel screened from dump material. Three (3) artefacts were identified from within the Hutton sand context of KTP1.6.

Test pits KTP1.1 to KTP1.4 indicate this portion of the Neotel Area 1 line route to be positioned between existing municipal service lines and a telecom line development, with the exact alignment of the Neotel Optic Fibre Cable thus situated within construction backfill material from former trenching works. Lithic artefacts encountered within trench backfill are representative of the original archaeological deposit, however the disturbed *ex-situ* context thereof diminishes the interpretative value of the artefacts, restricting it to basic typological and technological analysis. The highest number of artefacts were retrieved from KTP1.2 and KTP1.3, with both of these test pits situated within existing site extent boundary demarcations of the Kathu Townlands archaeological site. Lesser artefacts encountered at KTP1.1 (also situated within the Kathu Townlands site) and KTP1.4 indicate that artefact densities probably originally tapered radically out, with low density artefacts continuing towards the east (KTP1.5 and KTP1.6) in shallow Red Hutton sand contexts.

* * *

One hundred and ninety (190) artefacts were collected, as follows: Surface = 14 artefacts; KTP1.1 = 9 artefacts; KTP1.2 = 96 artefacts; KTP1.3 = 44 artefacts; KTP1.4 = 19 artefacts; KTP1.5 = 5 artefacts; and KTP1.6 = 3 artefacts. All collected artefacts were assigned a unique artefact identification number (*Artefact ID*) for analytical purposes. Basic analysis included classification of artefacts in the *Main Industrial Period* (Earlier Stone Age [ESA]; Middle Stone Age [MSA]; and Later Stone Age [LSA], including an 'Unidentified' category) and basic *Artefact Type* or typology (ESA = Handaxe; Cleaver; Pick; MSA and LSA = Blade; Flake-blade; Convergent flake; Circular flake; Duck-beak flake; Miscellaneous flake; Broken flake; and Cortical flake, with waste or *debitage* including the categories Core; Waste Flake; Chunk; and Chip). Technological recording included MSA and LSA *Prepared Platform* and *Dorsal Surface* flake scar count. *Use-wear* analysis was limited to MSA and LSA artefacts, including recording of use-wear locality on the artefact (Lateral; Lateralx2; Distal; Proximal; Lateral & Distal; Lateralx2 & Distal; Lateral & Proximal; Lateralx2 & Proximal; Distal & Proximal, Lateral, Distal

& Proximal; Lateralx2, Distal & Proximal; and None), with 2 categories allowed for distinctive use-wear identification (Scraper; Notch; and Awl). In the event of broken flakes, the basic break position was recorded (Lateral; Lateralx2, Distal; and Proximal). *Raw Material* usage was recorded for all artefacts (including the categories Banded Iron Stone; Jaspelite; Granite; Lydianite; Quartzite; Mudstone; Siliceous; and Unidentified). Basic measurements were taken of all artefacts (Length, measured from the artefact apex; Width; and Depth). [Technological analysis was not done on ESA artefacts; all surface collected ESA artefacts comprise *fossiles directeurs* (typological and technological typifying artefacts)].

Fourteen (14) artefacts were collected from the surface, the most significant of which are five (5) ESA handaxes; no handaxes were identified in any of the test pits. Surface collected handaxes serve as an indicator that these are present in the deposit, albeit low in quantity. Of the 5 collected handaxes one (1) has a broken and reworked tip, but not to an extend of it being classified as a cleaver. Another is described as a handaxe rough-out, with no bifacial retouch. Handaxes are in general fairly small, varying between 90-120cm in length. One (1) LSA surface artefact was identified, made from siliceous material, indicating variable use of raw material during the LSA, not found amongst test pit deposits.

One hundred and seventy-six (176) artefacts were collected from test pit deposits, being primarily MSA artefacts, and including thirty-four (34) LSA artefacts, with thirty-one (31) being classified as 'unidentified'. Recorded unidentified samples comprise varying types of waste or *debitage*, primarily chunks and chips. With the trench location being in disturbed backfill from former service trench excavations, classification of these waste categories, very similar in ESA, MSA and LSA deposits are impossible; due to disturbed deposit spit excavation for relative association would not have added interpretative value. MSA deposits are described as very informal, but varying MSA phases may well be inferred based on artefact size, including an earlier and later phase. A Volman (1984) MSA 1 is excluded (based on artefact size), but deposits may represent a MSA 2a or MSA 2b, as an earlier phase MSA. Smaller MSA artefacts, or a later phase MSA corresponds to Volman's (1984) general MSA 3, but the lack of archaeological context make distinction between a later phase MSA and the macrolithic LSA lithic tradition virtually impossible. MSA deposits are very informal, including the apparent frequent use of fairly small, flat pieces of banded iron stone, largely unshaped (not knapped), and used as scrapers. Only sixteen (16) of the identified artefacts, or 26% of the collection, classified as MSA and ESA comprise rough formal tools, with the majority thereof being flake-blades, followed by convergent flakes and blades. No other characteristic formal artefact forms, such as circular or duck-beak shaped tools, which may be indicative of an industry specific deposit (i.e varying phases of the Smithfield Industry) were present in the collection. The 16 identified formal tools are further also not prime examples; the *Lavallois Technique* is only identifiable on three (3) flake-blades and blades and two (2) convergent flakes, with these being poor *Levallois* samples. The remainder of the formal artefacts seem to approach formal artefact typology, but not necessarily associated with distinctive technology. The primary MSA and LSA artefact type comprise miscellaneous shaped flakes. Use-wear is detectable on the majority of samples, and including impromptu artefacts, such as the mentioned small, flat banded iron stone pieces. Distinctive use-wear indicates a notably high presence of scraper edges, not limited to the more formal artefacts, but spread across informal flake shapes and including the presence thereof on general waste or *debitage* classes. An equally significant number of artefacts indicated notch and awl use-wear patterns. The high presence of use-wear, and recorded multi-purpose use (evidenced by second level recorded distinctive use-wear pattern) seem in contrast with the informal typology of the deposit. The majority of artefacts were produced from banded iron stone and jaspelite, both being locally readily available raw material sources from the greater Kathu terrain.

* * *

CONCLUSION: Archaeological monitoring of the Neotel Optic Fibre Cable Area 1 line route, an approximate 0.73km linear development, situated within the road reserve north of the access road, with the road reserve being an existing development corridor, and with a portion thereof cutting through the known Kathu Townlands archaeological site, indicated that the line route development will impact on lithic archaeological deposits, but with deposits being in a notably poor, *ex-situ,* primarily construction backfilled context (KTP1.1 to KTP1.4). Despite the fact that impact on archaeological deposit was expected, with specific reference to the line route partially running through the known Kathu Townlands site, a recorded open air Acheulean site, impact specifically through the site (KTP1.1 to KTP1.3) points to it being less significant than originally anticipated, restrained to excavation between existing service lines, including municipal service lines to the north and a telecom line to the south, and dug in backfill material from former trench excavations. The eastern portion of the line route development, between KTP1.5 and KTP1.6, will impact on very low density Stone Age deposits.

[Results of the Neotel Area 1 archaeological monitoring has further reference specifically to the value of more systematic sampling and basic lithic analysis in site description and interpretation. The Kathu Townlands site is a known Acheulean

site. Although ESA deposits are directly associated with a flake, including a smaller flake and related artefact component, routinely comprising the bulk of the assemblage, analysis of the Area 1 test pit material indicated an essentially MSA and LSA deposit, with cognisance to the loss of archaeological context in the backfilled context from which artefacts were collected. Firstly, analysis indicate deposit variability, including MSA and macrolithic LSA deposits, within the greater Kathu Townlands site. Secondly, it comments on subjective selection by archaeologists. In the case of the Neotel Area 1 monitoring, with the line route running through the Kathu Townlands Acheulean site, ESA artefacts were expected. The expected, anticipated, experience and research interest of an archaeologist may affect artefact selection for site description purposes. Throughout fieldwork a focus was placed, as evidenced in the surface collection (random sampling), on larger artefacts. However, analysis of collected and trowel screened material from test pits (systematic sampling) resulted in the identification of a MSA and macrolithic LSA component, the presence of which was reasonably inferred from artefact collection (Van Ryneveld 2016), but confirmed by analysis of systemic samples. This observation has reference to heritage compliance requirements for developments where low significance surface artefacts, often recorded in disturbed contexts are recommended for collection in advance of development impact. Such collection often comprises random sampling, focussing on the collection of *fossils directeurs* to describe deposit. The contributing value of systematic sampling should be recognized in collection for purposes of site description and interpretation, with the potential to change variability in a collection, based on the general principle of '*the devil is in the detail*'.]

Map 2: Test pit localities KTP1.1 to KTP1.6 situated along the Area 1 portion of the line route

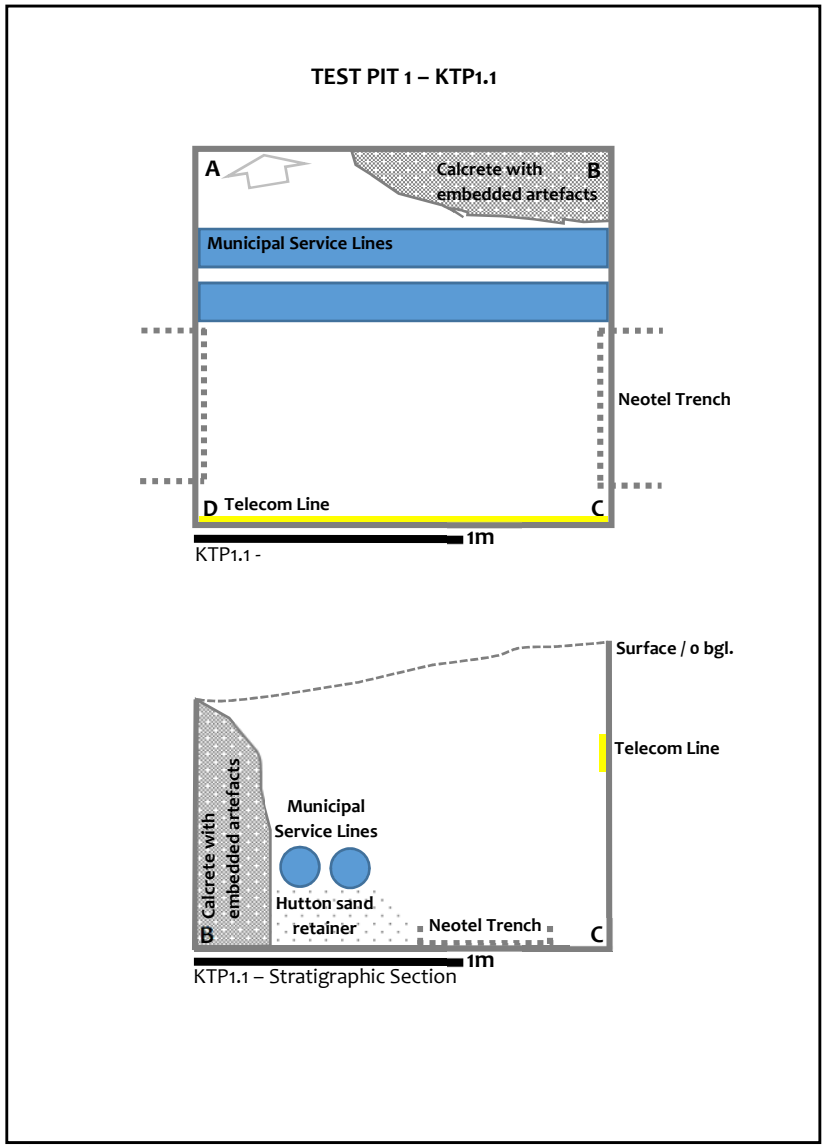


Diagram 1: KTP1.1 – Plan and stratigraphic section

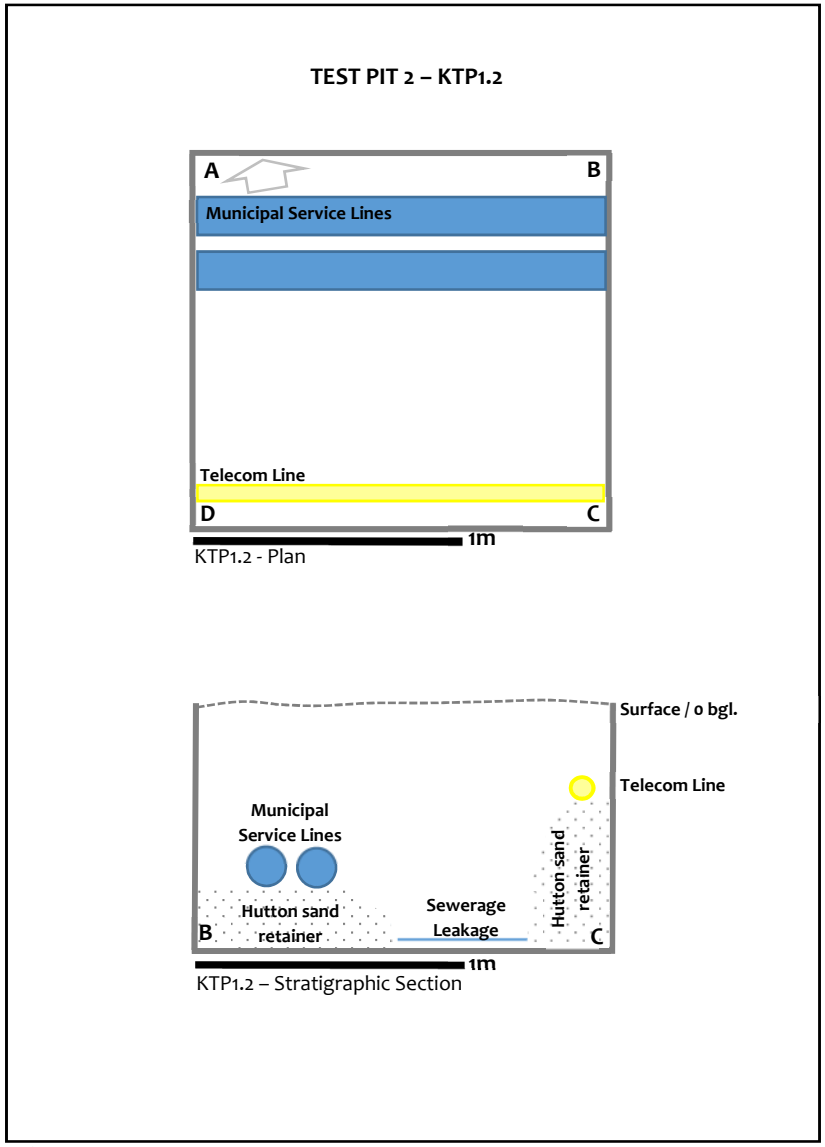


Diagram 2: KTP1.2 – Plan and stratigraphic section

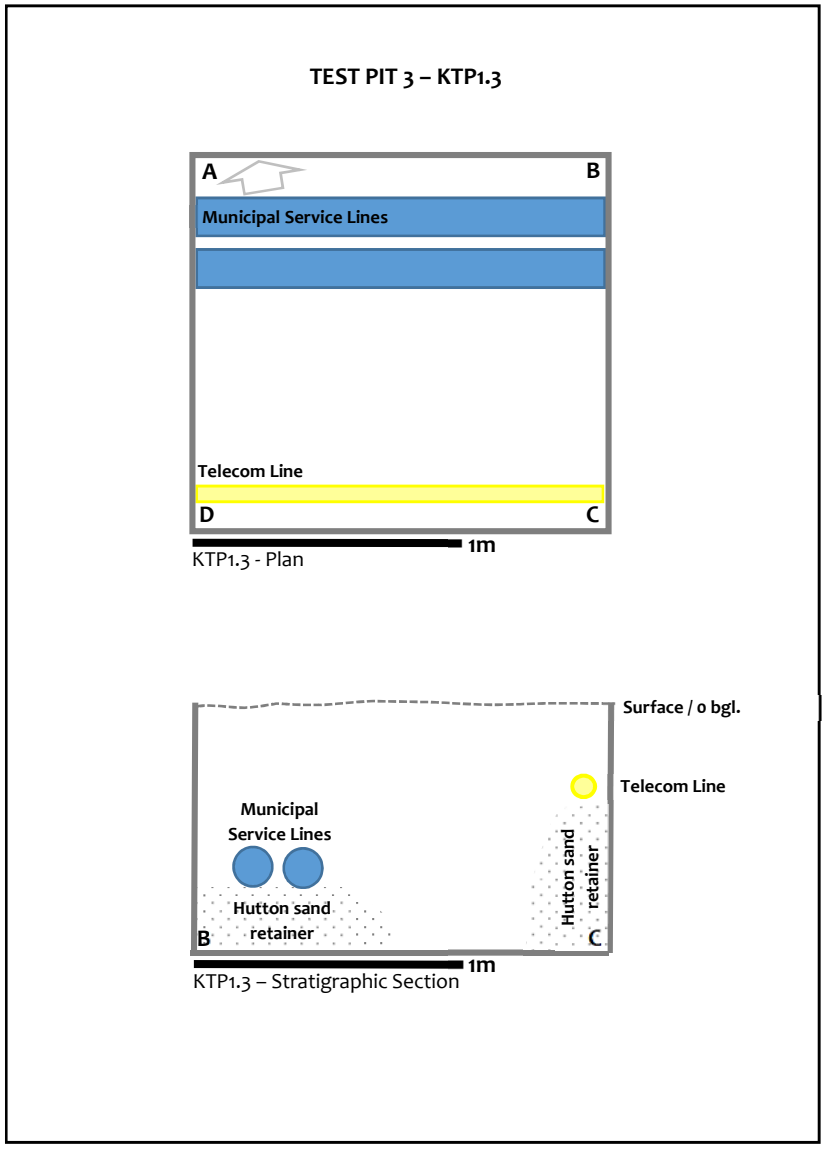


Diagram 3: KTP1.3 – Plan and stratigraphic Section

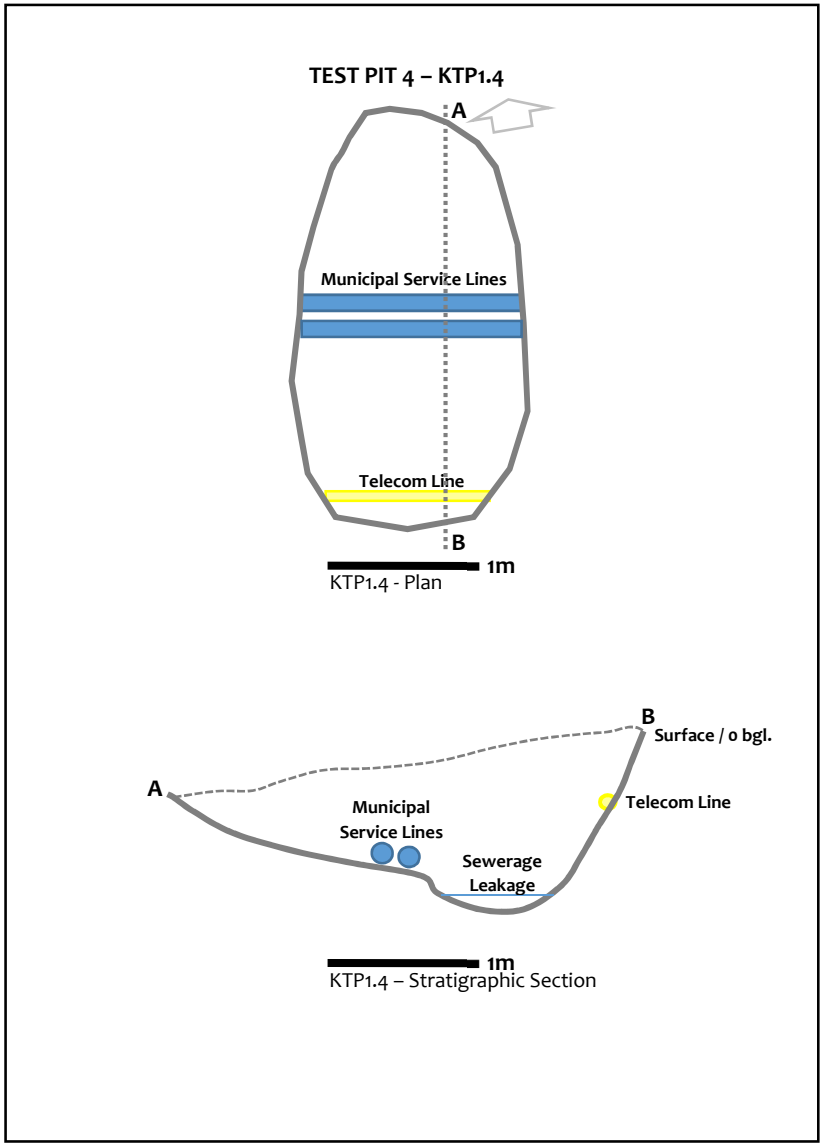


Diagram 4: KTP1.4 – Plan and stratigraphic section

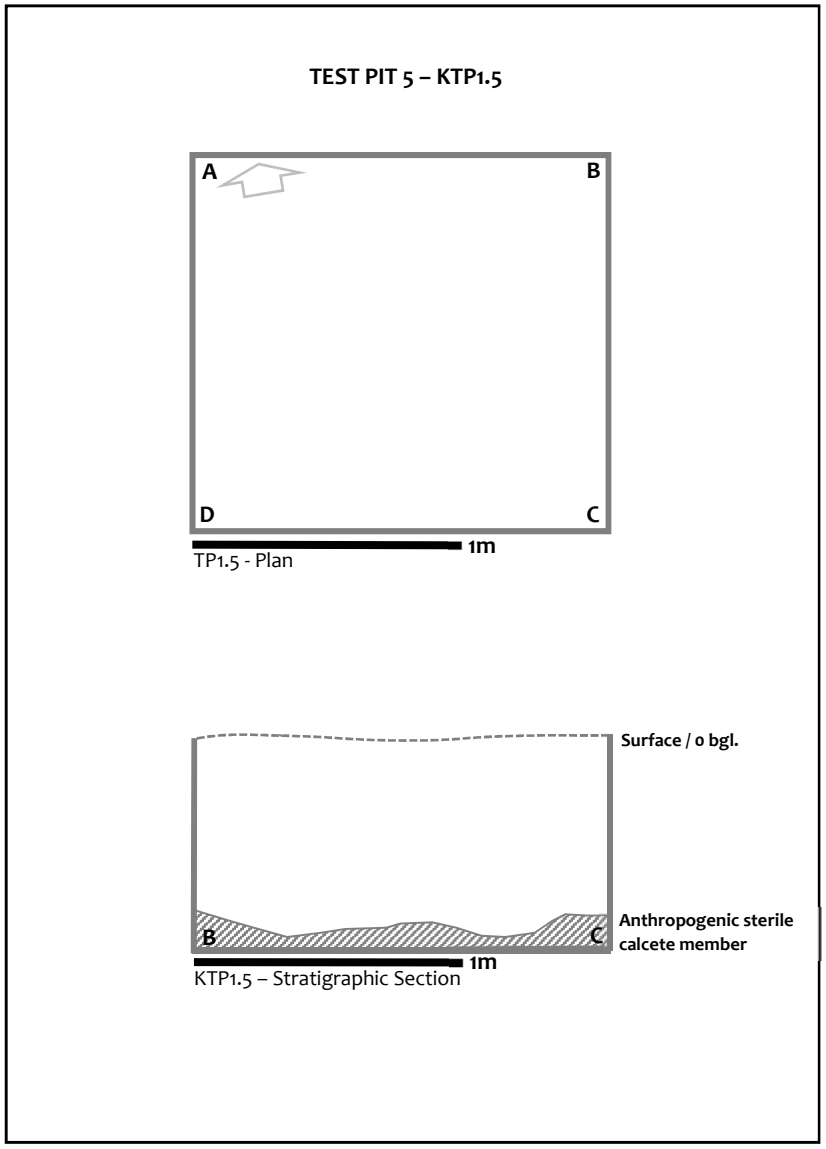


Diagram 5: KTP1.5 – Plan and stratigraphic section

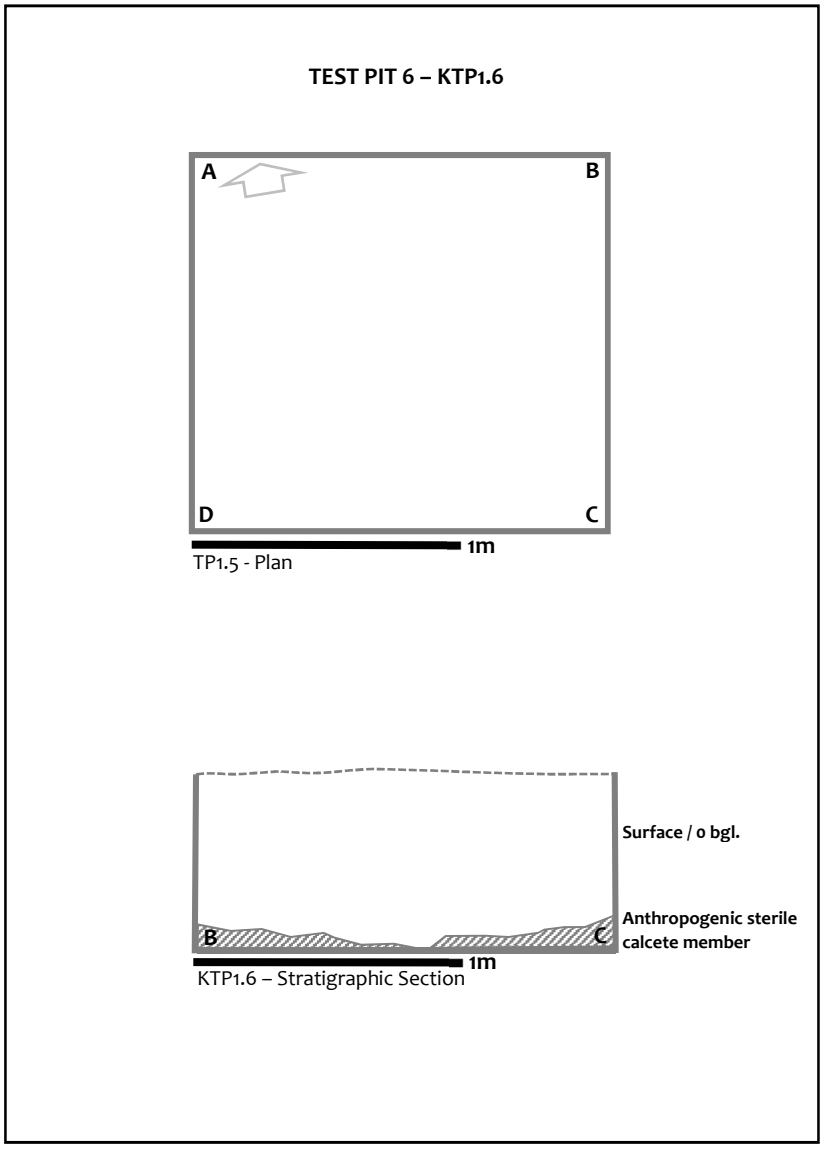


Diagram 6: KTP1.6 – Plan and stratigraphic section

NEOTEL OPTIC FIBRE CABLE, KATHU, NORTHERN CAPE AREA 1 – ANALYSIS												
Artefact ID	Main Industrial Period	Artefact Type	Prepared Platform – Nr of flake scares	Dorsal Surface – Nr of flake scares	Use-wear Pattern – Presence & Locality	Use-wear Pattern [2]	Use-wear Patt ern [3]	Break(s) – Presence & Locality	Raw Material	Length [mm]	Width [mm]	Depth [mm]
SURFACE												
S001	ESA	Handaxe	0	0	Lateralx2	None	None	None	Jaspelite	109.35	66.30	33.58
S002	ESA	Handaxe	0	0	Lateralx2	None	None	None	Jaspelite	121.94	71.37	33.62
S003	ESA	Handaxe	0	0	Lateralx2	None	None	None	Banded Iron Stone	115.27	68.58	33.10
S004	ESA	Handaxe	0	0	Lateralx2	None	None	None	Banded Iron Stone	92.37	66.99	27.93
S005	ESA	Handaxe	0	0	Lateral	None	None	None	Jaspelite	118.46	75.40	37.52
S006	MSA	Core	0	24	Lateralx2 & Distal	Scraper	None	None	Jaspelite	82.33	70.10	34.20
S007	MSA	Miscellaneous flake	2	10	Lateralx2	Notch	Awl	None	Jaspelite	114.91	73.45	20.36
S008	MSA	Flake-blade	1	3	Lateralx2 & Distal	Scraper	Notch	None	Granite	94.54	58.84	20.10
S009	MSA	Cortical flake	2	1	Lateralx2, Distal & Proximal	Notch	None	None	Jaspelite	85.35	69.70	16.30
S010	MSA	Cortical flake	1	2	Lateralx2 & Distal	Scraper	None	None	Banded Iron Stone	91.99	69.83	14.44
S011	MSA	Convergent flake	4	7	Lateralx2 & Proximal	Scraper	None	None	Jaspelite	98.53	72.55	21.28
S012	MSA	Miscellaneous flake	3	8	Lateralx2, Distal & Proximal	Scraper	None	None	Jaspelite	89.88	72.07	15.28
S013	MSA	Broken Flake	1	4	Lateral & Distal	Notch	None	Lateral	Jaspelite	95.28	0	19.35
S014	LSA	Broken Flake	1	1	Lateral & Distal	Scraper	None	Lateral	Siliceous	30.26	0	7.75
Test Pit 1 – KTP1.1												
KTP1.1-001	MSA	Miscellaneous flake	3	3	Lateral & Distal	None	None	None	Banded Iron Stone	93.66	100.54	43.70
KTP1.1-002	MSA	Core	0	11	None	None	None	None	Banded Iron Stone	85.98	60.14	58.60
KTP1.1-003	MSA	Waste flake	4	5	Lateral	None	None	None	Banded Iron Stone	83.49	62.48	31.43

KTP1.1-004	MSA	Flake-blade	1	4	Lateral & Distal	None	None	None	Jaspelite	71.90	46.68	20.44
KTP1.1-005	MSA	Waste flake	1	2	None	None	None	None	Banded Iron Stone	44.93	62.50	16.51
KTP1.1-006	Unidentified	Chunk	0	0	None	None	None	None	Unidentified	45.23	40.15	38.95
KTP1.1-007	Unidentified	Chunk	0	0	None	None	None	None	Unidentified	46.63	25.14	17.91
KTP1.1-008	Unidentified	Chip	0	0	None	None	None	None	Jaspelite	20.94	15.57	5.09
KTP1.1-009	Unidentified	Chip	0	0	None	None	None	None	Jaspelite	20.16	15.35	3.75
TEST PIT 2 – KTP1.2												
KTP1.2-001	MSA	Cortical flake	1	0	Lateralx2 & Distal	Scraper	None	None	Banded Iron Stone	107.57	76.71	26.82
KTP1.2-002	MSA	Cortical flake	1	0	Lateral	Notch	None	None	Banded Iron Stone	42.36	92.63	18.50
KTP1.2-003	MSA	Flake-blade	3	3	Lateral	None	None	None	Banded Iron Stone	93.32	47.18	10.26
KTP1.2-004	MSA	Cortical flake	5	0	Lateralx2, Distal & Proximal	Scraper	Notch	None	Banded Iron Stone	80.08	62.18	19.58
KTP1.2-005	MSA	Cortical flake	0	0	Lateralx2 & Distal	Scraper	None	None	Banded Iron Stone	93.97	80.04	19.73
KTP1.2-006	MSA	Broken Flake	3	4	None	None	None	Distal	Banded Iron Stone	0	88.21	15.27
KTP1.2-007	MSA	Flake-blade	3	3	Lateralx2 & Distal	None	None	None	Banded Iron Stone	80.77	40.58	20.82
KTP1.2-008	MSA	Miscellaneous flake	7	2	Lateralx2 & Distal	Notch	None	None	Granite	51.45	112.82	21.03
KTP1.2-009	MSA	Cortical flake	1	1	Lateral	None	None	None	Banded Iron Stone	70.35	48.16	12.13
KTP1.2-010	MSA	Miscellaneous flake	4	5	Lateralx2 & Distal	Scraper	None	None	Jaspelite	74.88	55.48	24.37
KTP1.2-011	MSA	Cortical flake	8	0	Lateralx2	None	None	None	Granite	89.72	61.43	20.58
KTP1.2-012	MSA	Miscellaneous flake	2	12	Lateralx2 & Distal	Scraper	None	None	Jaspelite	60.63	56.05	12.72
KTP1.2-013	MSA	Cortical flake	1	1	Lateralx2, Distal & Proximal	Scraper	None	None	Banded Iron Stone	63.93	45.93	22.39
KTP1.2-014	MSA	Miscellaneous flake	2	9	Lateralx2, Distal & Proximal	Scraper	None	None	Unidentified	78.13	44.94	26.64
KTP1.2-015	MSA	Cortical flake	1	0	Lateralx2 & Distal	Scraper	None	None	Banded Iron Stone	72.24	35.03	23.47
KTP1.2-016	MSA	Cortical flake	1	2	Lateral	None	None	None	Unidentified	71.82	46.35	29.32
KTP1.2-017	MSA	Broken flake	1	3	Lateral	None	None	Distal	Banded Iron Stone	0	30.43	7.46
KTP1.2-018	MSA	Cortical flake	3	2	Lateralx2 & Distal	Awl	None	None	Jaspelite	66.14	42.60	22.04
KTP1.2-019	MSA	Miscellaneous flake	5	2	Lateral	None	None	None	Jaspelite	48.90	70.83	11.54
KTP1.2-020	MSA	Miscellaneous flake	3	9	Lateralx2 & Distal	Scraper	Notch	None	Jaspelite	61.65	43.48	16.05
KTP1.2-021	MSA	Broken flake	1	7	Lateralx2	Notch	Awl	Distal	Jaspelite	0	80.29	20.20
KTP1.2-022	MSA	Miscellaneous flake	1	7	Lateral	None	None	None	Banded Iron Stone	60.58	70.23	27.66

KTP1.2-023	MSA	Cortical flake	1	0	Lateral	Notch	None	None	Unidentified	67.91	45.12	15.32
KTP1.2-024	MSA	Broken flake	2	6	Lateralx2	Notch	None	Distal	Jaspelite	0	46.02	9.04
KTP1.2-025	MSA	Miscellaneous flake	1	8	Lateralx2	Notch	None	None	Banded Iron Stone	31.70	63.58	13.49
KTP1.2-026	MSA	Cortical flake	1	0	Lateralx2, Distal & Proximal	Scraper	None	None	Banded Iron Stone	50.80	35.79	17.58
KTP1.2-027	MSA	Cortical flake	1	0	Lateral	None	None	None	Jaspelite	54.14	41.49	17.56
KTP1.2-028	MSA	Cortical flake	0	0	Lateral	Notch	None	None	Jaspelite	58.75	36.08	15.78
KTP1.2-029	MSA	Cortical flake	1	3	Lateralx2	None	None	None	Jaspelite	51.90	44.20	19.96
KTP1.2-030	MSA	Flake-blade	4	4	Lateralx2 & Distal	Scraper	Awl	None	Jaspelite	52.83	29.54	10.10
KTP1.2-031	Unidentified	Chunk	0	0	None	None	None	None	Banded Iron Stone	52.02	29.78	20.71
KTP1.2-032	MSA	Convergent flake	5	3	Lateralx2	Scraper	None	None	Unidentified	38.58	36.46	11.62
KTP1.2-033	MSA	Flake-blade	1	9	Lateralx2 & Distal	Scraper	None	None	Jaspelite	44.09	30.32	10.14
KTP1.2-034	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	55.50	23.51	23.36
KTP1.2-035	MSA	Broken flake	4	3	Lateral	None	None	Distal	Jaspelite	0	45.99	12.28
KTP1.2-036	MSA	Miscellaneous flake	3	1	Lateral	None	None	None	Banded Iron Stone	36.78	61.00	11.49
KTP1.2-037	MSA	Miscellaneous flake	3	8	Lateral	None	None	None	Banded Iron Stone	41.11	35.05	12.98
KTP1.2-038	MSA	Miscellaneous flake	3	2	Lateral & Proximal	None	None	None	Lydianite	30.55	51.33	6.19
KTP1.2-039	Unidentified	Chunk	0	0	None	None	None	None	Banded Iron Stone	39.30	43.24	24.54
KTP1.2-040	Unidentified	Chunk	0	0	None	None	None	None	Banded Iron Stone	45.10	32.25	21.56
KTP1.2-041	MSA	Miscellaneous flake	3	4	Lateralx2	Scraper	None	None	Jaspelite	58.61	20.65	14.64
KTP1.2-042	MSA	Miscellaneous flake	1	4	Lateralx2 & Distal	None	None	None	Banded Iron Stone	52.24	45.98	16.36
KTP1.2-043	MSA	Cortical flake	2	3	Proximal & Distal	Notch	None	None	Jaspelite	30.71	52.52	9.68
KTP1.2-044	MSA	Miscellaneous flake	1	3	Lateralx2, Distal & Proximal	Scraper	Awl	None	Jaspelite	28.32	46.17	9.94
KTP1.2-045	MSA	Broken flake	1	4	Lateralx2	Scraper	None	Distal	Jaspelite	0	25.70	10.22
KTP1.2-046	MSA	Miscellaneous flake	1	1	Lateralx2, Distal & Proximal	Scraper	None	None	Jaspelite	51.90	33.56	10.29
KTP1.2-047	MSA	Miscellaneous flake	1	5	Lateral & Distal	None	None	None	Banded Iron Stone	28.65	57.42	9.99
KTP1.2-048	MSA	Broken flake	0	3	Lateralx2 & Distal	Scraper	None	Proximal	Jaspelite	0	37.36	15.60
KTP1.2-049	MSA	Broken flake	5	2	Lateralx2	Scraper	None	Distal	Jaspelite	0	35.94	10.22
KTP1.2-050	MSA	Miscellaneous flake	2	6	Lateralx2, Distal & Proximal	Scraper	Notch	None	Jaspelite	45.39	30.85	9.42
KTP1.2-051	MSA	Broken flake	0	1	Lateralx2 & Distal	None	None	Proximal	Jaspelite	0	47.29	10.15

KTP1.2-052	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	38.86	29.68	20.37
KTP1.2-053	MSA	Cortical flake	2	0	Lateralx2	None	None	None	Jaspelite	37.86	26.05	12.33
KTP1.2-054	MSA	Cortical flake	1	0	Lateralx2 & Distal	Scraper	Notch	None	Jaspelite	45.97	30.44	7.85
KTP1.2-055	MSA	Miscellaneous flake	1	3	Lateralx2 & Distal	None	None	None	Jaspelite	25.00	40.42	7.04
KTP1.2-056	MSA	Miscellaneous flake	1	5	Lateralx2	Notch	Awl	None	Banded Iron Stone	42.02	28.53	8.06
KTP1.2-057	MSA	Broken flake	1	0	Lateral	None	None	Lateral	Jaspelite	45.13	0	10.98
KTP1.2-058	MSA	Broken flake	1	3	None	None	None	Distal	Banded Iron Stone	0	22.81	11.19
KTP1.2-059	MSA	Miscellaneous flake	2	3	Lateralx2 & Distal	Scraper	None	None	Jaspelite	35.48	29.24	8.48
KTP1.2-060	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	43.91	26.07	15.93
KTP1.2-061	MSA	Miscellaneous flake	1	11	Lateralx2 & Distal	Scraper	Notch	None	Jaspelite	37.41	24.35	7.33
KTP1.2-062	MSA	Miscellaneous flake	2	5	Lateralx2 & Distal	Scraper	None	None	Banded Iron Stone	25.96	38.37	12.55
KTP1.2-063	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	33.24	33.75	15.84
KTP1.2-064	MSA	Broken flake	0	1	Lateralx2 & Distal	None	None	Proximal	Jaspelite	0	22.05	9.78
KTP1.2-065	LSA	Miscellaneous flake	2	6	Lateralx2 & Distal	None	None	None	Banded Iron Stone	26.38	37.32	12.45
KTP1.2-066	MSA	Broken flake	3	5	Lateralx2	Scraper	Notch	Distal	Jaspelite	0	25.00	6.36
KTP1.2-067	LSA	Cortical flake	1	3	Lateral	None	None	None	Jaspelite	35.04	24.92	7.01
KTP1.2-068	LSA	Miscellaneous flake	1	4	Lateral & Distal	None	None	None	Jaspelite	28.81	23.92	7.40
KTP1.2-069	LSA	Miscellaneous flake	1	2	Lateralx2 & Distal	None	None	None	Banded Iron Stone	30.37	25.89	10.16
KTP1.2-070	Unidentified	Chip	0	0	None	None	None	None	Jaspelite	18.03	17.71	5.03
KTP1.2-071	LSA	Miscellaneous flake	1	3	Lateral	None	None	None	Jaspelite	25.35	23.12	5.20
KTP1.2-072	LSA	Miscellaneous flake	1	4	Lateralx2 & Distal	None	None	None	Banded Iron Stone	14.78	28.41	3.17
KTP1.2-073	MSA	Broken flake	2	5	Lateralx2	None	None	Distal	Unidentified	0	30.83	9.13
KTP1.2-074	LSA	Miscellaneous flake	3	3	Lateralx2 & Distal	None	None	None	Jaspelite	24.55	26.86	6.13
KTP1.2-075	LSA	Convergent flake	5	7	Lateralx2	None	None	None	Jaspelite	26.39	26.35	7.11
KTP1.2-076	LSA	Miscellaneous flake	1	2	Lateralx2	None	None	None	Jaspelite	38.45	22.55	3.63
KTP1.2-077	LSA	Miscellaneous flake	2	5	Lateralx2, Distal & Proximal	Scraper	None	None	Banded Iron Stone	24.20	30.32	7.52
KTP1.2-078	LSA	Miscellaneous flake	3	1	Lateralx2	None	None	None	Banded Iron Stone	27.65	35.14	5.11
KTP1.2-079	LSA	Miscellaneous flake	1	2	Lateralx2, Distal & Proximal	None	None	None	Banded Iron Stone	21.24	30.68	4.81
KTP1.2-080	LSA	Cortical flake	2	0	Lateralx2, Distal & Proximal	None	None	None	Banded Iron Stone	25.22	30.78	8.76

KTP1.2-081	LSA	Miscellaneous flake	1	2	Lateralx2	None	None	None	Unidentified	30.36	19.56	7.05
KTP1.2-082	LSA	Miscellaneous flake	1	1	Lateral	None	None	None	Jaspelite	28.32	19.82	10.48
KTP1.2-083	LSA	Flake-blade	1	5	Lateral & Distal	Scraper	Notch	None	Jaspelite	44.26	21.05	7.08
KTP1.2-084	LSA	Miscellaneous flake	3	6	Lateralx2 & Distal	None	None	None	Jaspelite	23.53	30.84	8.96
KTP1.2-085	LSA	Blade	1	4	Lateralx2	Notch	None	None	Jaspelite	35.59	16.52	6.38
KTP1.2-086	LSA	Flake-blade	3	2	Lateralx2, Distal & Proximal	Scraper	Notch	None	Jaspelite	29.44	20.18	8.54
KTP1.2-087	LSA	Miscellaneous flake	1	4	Lateralx2 & Distal	Scraper	Awl	None	Banded Iron Stone	29.90	24.35	6.90
KTP1.2-088	Unidentified	Chip	1	1	None	None	None	None	Banded Iron Stone	21.46	16.61	5.36
KTP1.2-089	LSA	Miscellaneous flake	3	4	Lateralx2, Distal & Proximal	Scraper	None	None	Unidentified	37.29	26.55	9.78
KTP1.2-090	LSA	Miscellaneous flake	2	3	Lateralx2 & Distal	Scraper	Awl	None	Jaspelite	23.85	25.05	8.40
KTP1.2-091	LSA	Miscellaneous flake	1	7	Lateralx2 & Distal	None	None	None	Banded Iron Stone	26.81	24.00	7.07
KTP1.2-092	LSA	Miscellaneous flake	1	4	Lateralx2 & Distal	None	None	None	Banded Iron Stone	25.18	40.60	9.43
KTP1.2-093	LSA	Miscellaneous flake	1	4	Lateralx2 & Distal	Scraper	Notch	None	Banded Iron Stone	23.11	26.88	5.02
KTP1.2-094	LSA	Miscellaneous flake	1	2	Lateralx2	Notch	None	None	Jaspelite	22.96	19.99	6.62
KTP1.2-095	LSA	Cortical flake	1	1	Distal	None	None	None	Jaspelite	27.30	28.18	4.55
KTP1.2-096	Unidentified	Chip	0	0	None	None	None	None	Banded Iron Stone	25.30	15.30	5.63
TEST PIT 3 – KTP 1.3												
KTP1.3-001	MSA	Miscellaneous flake	3	2	Lateralx2 & Distal	None	None	None	Banded Iron Stone	111.09	125.48	28.70
KTP1.3-002	MSA	Miscellaneous flake	1	9	Lateralx2	None	None	None	Banded Iron Stone	116.38	87.99	33.75
KTP1.3-003	MSA	Core	0	10	Lateralx2	Scraper	None	None	Jaspelite	116.79	91.97	46.55
KTP1.3-004	MSA	Miscellaneous flake	0	11	Lateralx2, Distal & Proximal	Scraper	None	None	Jaspelite	98.39	76.90	32.94
KTP1.3-005	MSA	Miscellaneous flake	2	7	Lateral & Distal	Notch	None	None	Banded Iron Stone	106.49	74.51	22.97
KTP1.3-006	MSA	Core	0	18	None	None	None	None	Jaspelite	89.14	81.35	53.51
KTP1.3-007	MSA	Core	0	12	Lateral	None	None	None	Banded Iron Stone	90.12	68.50	36.63
KTP1.3-008	MSA	Core	0	14	Lateral	Scraper	None	None	Jaspelite	107.24	78.96	45.32
KTP1.3-009	MSA	Core	0	13	None	None	None	None	Banded Iron Stone	73.38	57.85	41.76
KTP1.3-010	MSA	Miscellaneous flake	6	7	Lateral & Distal	None	None	None	Jaspelite	106.41	82.11	28.22
KTP1.3-011	MSA	Blade	6	5	Lateralx2	None	None	None	Banded Iron Stone	111.57	54.08	15.21
KTP1.3-012	MSA	Core	0	19	None	None	None	None	Jaspelite	73.41	61.70	41.09

KTP1.3-013	MSA	Cortical flake	3	0	Lateralx2	Scraper	Notch	None	Banded Iron Stone	56.66	76.39	15.68
KTP1.3-014	MSA	Core	0	17	None	None	None	None	Jaspelite	71.67	51.00	22.21
KTP1.3-015	MSA	Cortical flake	1	0	Distal	None	None	None	Jaspelite	78.2	55.28	10.10
KTP1.3-016	MSA	Core	0	20	None	None	None	None	Jaspelite	56.96	48.85	25.71
KTP1.3-017	MSA	Core	0	12	Lateral	None	None	None	Jaspelite	69.72	49.18	25.88
KTP1.3-018	MSA	Broken Flake	2	4	Lateralx2	None	None	Lateral	Jaspelite	0	60.08	18.17
KTP1.3-019	MSA	Core	0	13	None	None	None	None	Banded Iron Stone	54.32	52.31	34.11
KTP1.3-020	MSA	Miscellaneous flake	1	2	Lateral	None	None	None	Jaspelite	55.84	43.57	17.16
KTP1.3-021	MSA	Core	0	21	None	None	None	None	Jaspelite	71.76	50.94	29.01
KTP1.3-022	MSA	Miscellaneous flake	0	1	Lateralx2 & Proximal	Scraper	None	None	Banded Iron Stone	57.72	44.12	15.29
KTP1.3-023	MSA	Core	0	11	None	None	None	None	Jaspelite	54.93	34.80	26.29
KTP1.3-024	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	40.14	36.17	37.02
KTP1.3-025	MSA	Core	0	8	Lateralx2 & Distal	Scraper	None	None	Jaspelite	57.93	48.56	39.61
KTP1.3-026	MSA	Core	0	11	None	None	None	None	Jaspelite	57.32	40.00	27.88
KTP1.3-027	MSA	Core	0	12	None	None	None	None	Jaspelite	44.21	41.02	33.32
KTP1.3-028	MSA	Miscellaneous flake	1	8	None	None	None	None	Jaspelite	48.11	36.23	17.84
KTP1.3-029	MSA	Miscellaneous flake	1	1	Lateralx2 & Distal	Awl	None	None	Jaspelite	38.09	58.74	13.33
KTP1.3-030	Unidentified	Chunk	0	0	None	None	None	None	Banded Iron Stone	33.53	22.06	20.26
KTP1.3-031	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	40.80	27.68	21.39
KTP1.3-032	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	30.83	21.98	17.55
KTP1.3-033	MSA	Blade	3	2	Lateral	None	None	None	Banded Iron Stone	30.29	65.72	8.41
KTP1.3-034	MSA	Convergent flake	4	4	Distal	None	None	None	Jaspelite	48.84	47.09	16.41
KTP1.3-035	MSA	Miscellaneous flake	2	4	None	None	None	None	Unidentified	39.98	28.70	8.21
KTP1.3-036	MSA	Convergent flake	2	5	Lateralx2	Notch	None	None	Jaspelite	59.90	30.78	18.06
KTP1.3-037	Unidentified	Broken Flake	4	3	None	None	None	Lateral	Jaspelite	33.48	0	12.24
KTP1.3-038	Unidentified	Broken Flake	0	1	None	None	None	Lateralx2	Banded Iron Stone	26.57	0	6.54
KTP1.3-039	LSA	Miscellaneous flake	1	3	Distal	Awl	None	None	Jaspelite	27.21	29.96	4.18
KTP1.3-040	LSA	Blade	1	3	None	None	None	None	Banded Iron Stone	36.94	17.34	10.87
KTP1.3-041	LSA	Convergent flake	2	3	None	None	None	None	Banded Iron Stone	36.72	24.23	8.16

KTP1.3-042	LSA	Circular flake	2	6	Lateralx2, Distal & Proximal	Scraper	None	None	Jaspelite	29.08	24.93	5.78
KTP1.3-043	LSA	Miscellaneous flake	3	3	Lateralx2, Distal & Proximal	Scraper	None	None	Banded Iron Stone	24.24	33.67	11.33
KTP1.3-044	LSA	Miscellaneous flake	1	1	Lateral & Distal	Scraper	None	None	Granite	25.10	29.76	8.68
TEST PIT 4 – KTP1.4												
KTP1.4-001	MSA	Cortical flake	0	0	Lateralx2 & Distal	Scraper	None	None	Jaspelite	95.06	50.36	33.64
KTP1.4-002	MSA	Miscellaneous flake	5	14	Lateralx2 & Distal	Scraper	None	None	Banded Iron Stone	94.97	85.37	33.02
KTP1.4-003	MSA	Miscellaneous flake	0	10	Lateralx2, Distal & Proximal	Scraper	None	None	Jaspelite	99.30	71.88	35.72
KTP1.4-004	MSA	Core	0	18	Lateralx2	Scraper	None	None	Mudstone	99.12	83.41	45.02
KTP1.4-005	MSA	Core	0	13	None	None	None	None	Unidentified	60.29	52.73	32.52
KTP1.4-006	MSA	Blade	5	5	Lateralx2, Distal & Proximal	Scraper	None	None	Banded Iron Stone	66.39	33.14	14.21
KTP1.4-007	Unidentified	Chunk	0	0	Lateralx2	None	None	None	Quartzite	61.12	39.78	28.38
KTP1.4-008	Unidentified	Chunk	0	0	None	None	None	None	Unidentified	63.25	27.15	19.49
KTP1.4-009	MSA	Cortical flake	1	2	Lateral & Distal	None	None	None	Mudstone	52.29	34.53	12.59
KTP1.4-010	MSA	Miscellaneous flake	4	5	Lateralx2 & Distal	Scraper	Notch	None	Jaspelite	48.64	46.12	12.06
KTP1.4-011	MSA	Convergent flake	2	5	Lateralx2	None	None	None	Jaspelite	48.89	27.16	6.96
KTP1.4-012	MSA	Flake-blade	3	5	Lateralx2	Notch	None	None	Jaspelite	46.71	27.64	7.69
KTP1.4-013	Unidentified	Chunk	0	0	None	None	None	None	Granite	43.41	29.41	27.61
KTP1.4-014	MSA	Cortical flake	4	4	Lateral & Distal	Scraper	None	None	Banded Iron Stone	48.22	38.83	13.78
KTP1.4-015	MSA	Convergent flake	2	8	Lateralx2	Scraper	Awl	None	Jaspelite	42.06	25.93	15.48
KTP1.4-016	Unidentified	Waste flake	1	3	None	None	None	None	Unidentified	29.38	43.89	12.04
KTP1.4-017	Unidentified	Waste flake	1	2	None	None	None	None	Unidentified	30.77	34.18	9.57
KTP1.4-018	Unidentified	Waste flake	1	0	None	None	None	None	Unidentified	37.91	28.26	12.98
KTP1.4-019	Unidentified	Chip	1	2	None	None	None	None	Banded Iron Stone	20.06	16.88	6.05
TEST PIT 5 – KTP1.5												
KTP1.5-001	Unidentified	Chunk	0	0	None	None	None	None	Quartzite	89.32	67.17	43.29
KTP1.5-002	Unidentified	Chunk	0	0	None	None	None	None	Granite	52.97	27.94	26.01
KTP1.5-003	Unidentified	Chunk	0	0	None	None	None	None	Jaspelite	46.91	22.97	20.68
KTP1.5-004	MSA	Cortical flake	0	0	Lateralx2 & Distal	None	None	None	Jaspelite	19.17	40.57	11.72
KTP1.5-005	MSA	Cortical flake	0	0	Lateralx2 & Distal	Notch	None	None	Unidentified	42.7	24.15	15.37

TEST PIT 6 – KTP1.6												
KTP1.6-001	ESA	Miscellaneous flake	2	7	Lateralx2 & Proximal	None	None	None	Jaspelite	107.17	13.94	26.05
KTP1.6-002	Unidentified	Chunk	0	4	None	None	None	None	Banded Iron Stone	65.65	38.47	23.64
KTP1.6-003	LSA	Circular flake	1	1	Lateralx2 & Distal	Scraper	None	None	Jaspelite	22.99	18.42	10.06

Table 1: Neotel Optic Fibre Cable, Kathu, Northern Cape. Area 1 – Analysis

Plate 1: Surface artefacts [S001 to S014]

Plate 2: KTP1.1 artefacts [KTP1.1-001 to KTP1.1-009]

Plate 3: KTP1.2 artefacts 1/2 [KTP1.1.001 to KTP1.2-025]

Plate 4: KTP1.2 artefacts 2/2 [KTP1.2-026 to KTP1.2-096]

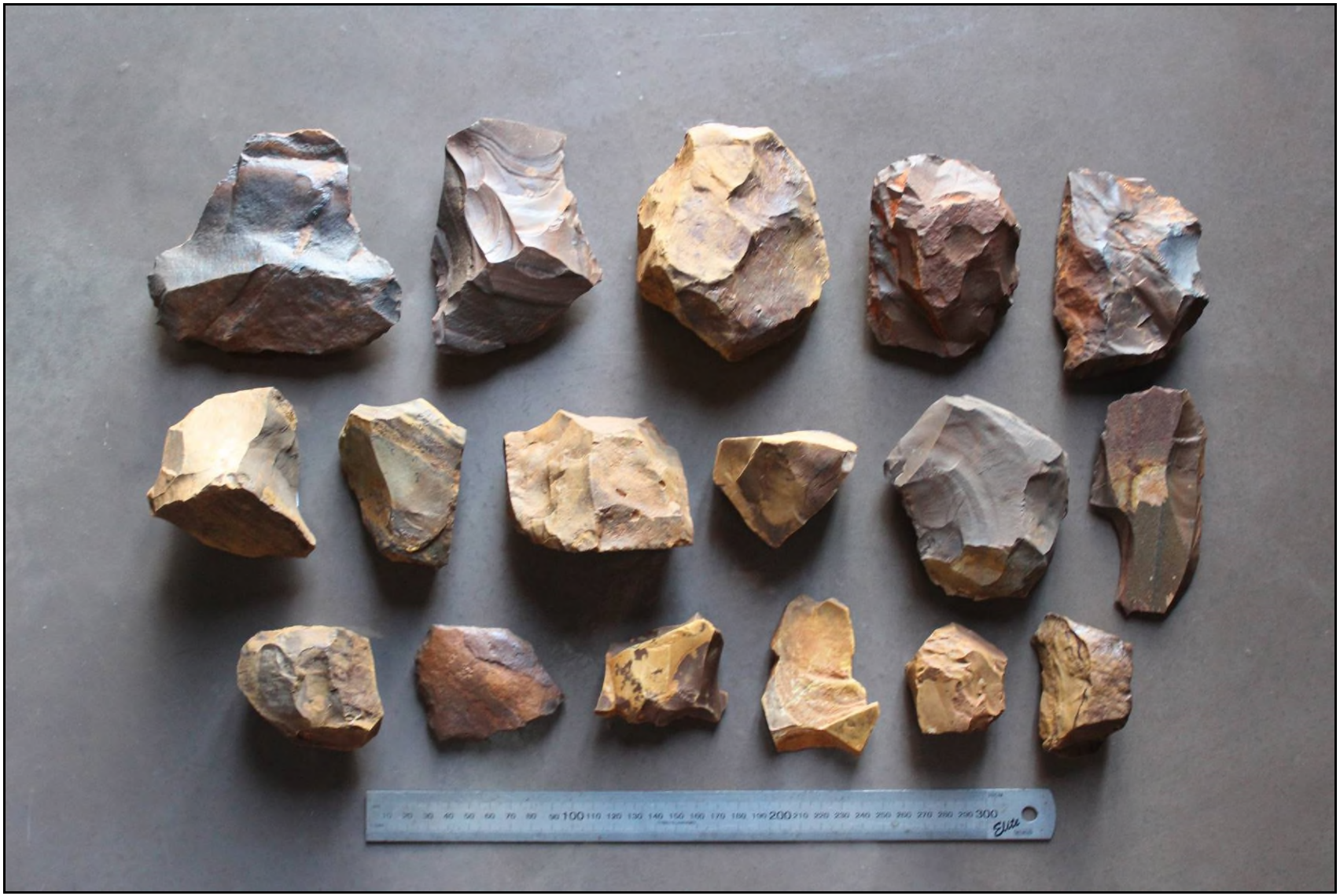


Plate 5: KTP1.3 artefacts 1/2 [KTP1.3-001 to KTP1.3-017]

Plate 6: KTP1.3 artefacts 2/2 [KTP1.3-018 to KTP1.3-044]

Plate 7: KTP1.4 artefacts [KTP1.4-001 to KTP1.4-019]

Plate 8: KTP1.5 artefacts [KTP1.5-001 to KTP1.5-005]

Plate 9: KTP1.6 artefacts [KTP1.6-001 to KTP1.6-003]

3) DISCUSSION

The Kathu Townlands site is described by Beaumont (1990) as an '*Acheulean open site… investigated by way of two excavations… in 1982 and 1990*', with the general site setting described as: '*Closer to Kathu the orange sands* (generally referred to as Red Hutton sands) *reach a depth of up to 3m and overlie calcrete, which suggests that the banded iron stone outcrop at Kathu Townlands 1 was set in a calcrete plain, prior to its burial by one or more influxes of Kalahari sand from the north-west*'. Beaumont (1990) estimated the size of the Kathu Townlands site as comprising an approximate 25ha area, and based on excavation findings concluded that the site may contain in the region of 2 billion artefacts. With reference to the deposit Beaumont (1990) stated: '*The remarkable abundance of lithic debris clearly results from the protracted use of the high-grade banded iron stone outcrop as a raw material source, with such a quarry / workshop interpretation being further supported by the high percentage of rough-outs in the total handaxe sample found here. Samples from two widely separated excavations are typographically identical, and further evidence that this site formed during a single relatively brief (one interglacial?) timespan, is provided by the observation that artefacts showing weathering and trampling damage are confined to the surface of the accumulation. Finished handaxes are smallish, with high scar counts, but the distinguishing features of the assemblage as a whole are the presence of refined prepared cores, and a flake component with forms that are confined to irregulars with a low incidence of dorsal cortex.*' [Localities of the referred to excavations situated within the Kathu Townlands site are not recorded, with site recording and excavation having been done prior to the general use of GPS technology in archaeology.]

With reference to artefacts identified from the Neotel Optic Fibre Cable – Area 1 test pits, it seems that variation in deposit exist across the Kathu Townlands site: The Acheulean is fairly poorly represented, and surface restricted, across the already disturbed Neotel Area 1 study site, with a focus on MSA and LSA lithic deposits. The presence of refined prepared cores reported on by Beaumont (1990) is inferred to pertain to the Acheulean component of the deposit only, with an observed break in technological continuity. At the Neotel Area 1 study site poor core preparation is reflected in the general absence or inferior execution of the *Lavallois* technique in largely MSA deposits. Calcrete formations and type encountered at the Neotel Area 1 study site may also be indicative of varying palaeoenvironmental conditions.

Fairly extensive Phase 2 archaeological mitigation done for the Heritage Square mall development, Erf 5116, Kathu, in 2013, serves to further describe the Kathu Townlands site. A comprehensive Phase 2 report by Walker *et. al.* (2013a, 2013b) includes a history of the site; the discovery of the Kathu Townlands site, early reporting, recording and archaeological investigation of the deposits. It addresses the Kathu Townlands site, with reference to its setting in the greater Kathu Archaeological Landscape by means of comparative inclusion of more resent archaeological research projects. The Phase 2 archaeological report (Walker *et. al.* 2013a) also raise the issue of increasing development in Kathu, and the possible impact thereof on the site, associated with the recommendation for declaration of the Kathu Townlands site for National Heritage Site (NHS) status.

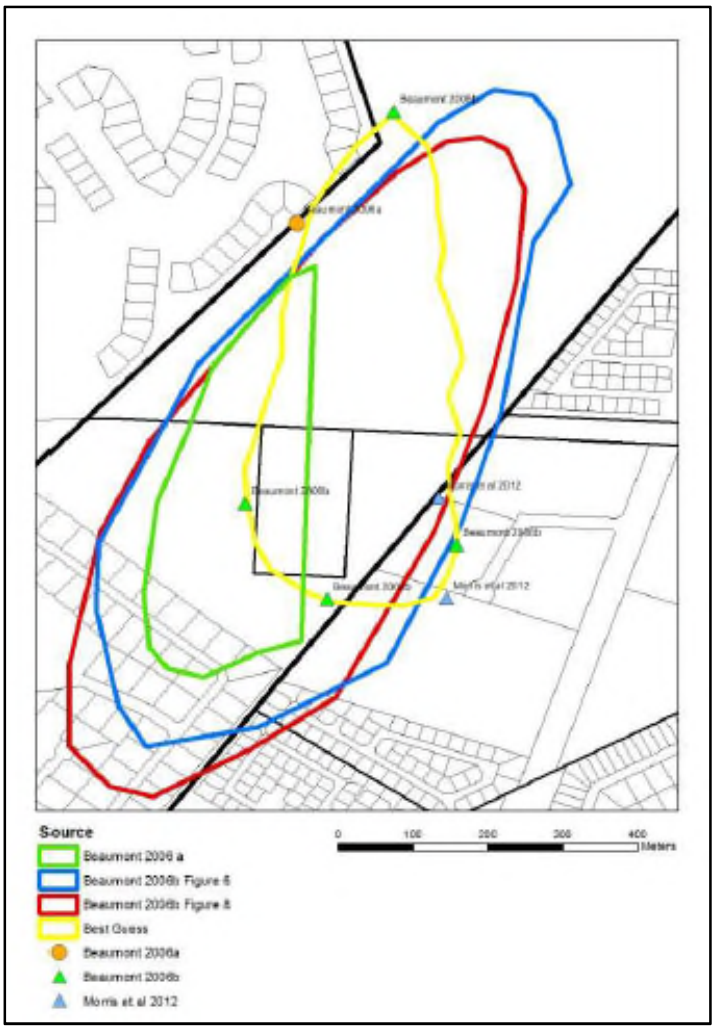
The archaeology project team of the Phase 2 Heritage Square archaeological mitigation project, with investigation centred on a number of trenches (Trenches A-K) associated directly with the '*Developer Trench*' and five (5) archaeological excavation squares, address a number of archaeologically significant concerns relating to the Kathu Townlands site:

- Firstly, that recorded archaeological site extent of specifically large Stone Age sites, referring directly to the Kathu Townlands site, is at most relative: Defined site edges are not found on-site, and often site extent demarcations will shift as investigation, including sub-surface inspection continues. They specifically address the issue of various site boundaries that have been submitted for the Kathu Townlands site, and conclude that their investigation indicated that the site may well extent further east than previously recorded (Walker *et. al.* 2013a, 2013b).
- Secondly they address the issue of surface deposit density and variability across the Kathu Townlands site. Although archaeological reporting on the Heritage Square Phase 2 mitigation do not as yet include artefact analysis, submitted or available on SAHRIS for comparative interpretation, photographic documentation of artefacts indicates select deposits fairly similar to that found at the Neotel Area 1 study site, albeit in better contexts, and varying from dense banded iron stone gravel deposits to Red Hutton sands. One significant distinction being the *in-situ* identification of Acheulean handaxes at the Heritage Mall study site, with excavation depth recorded to approximately 1.2-1.3m bgl, thus only slightly deeper than at the Neotel Area 1 trench, but with ESA type artefacts not necessarily restricted to the lowest levels. Lithic artefact embedded calcrete formations seem to be fairly characteristic of the subsurface of the area, as documented by Walker *et. al.* (2013a).
- Lastly, the sensitive but interdependent relationship between development and archaeological conservation versus mitigation is addressed. Walker *et. al.* (2013a) describes their Phase 2 Heritage Square archaeological

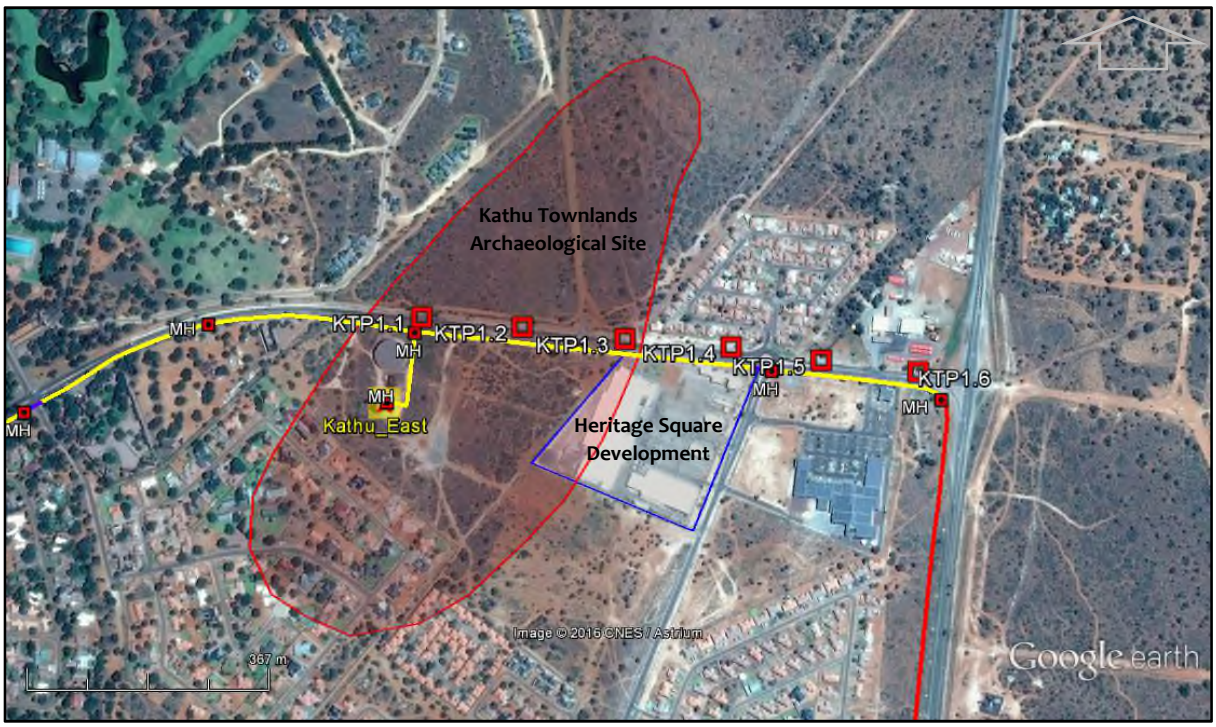
mitigation project as '*… a successful balancing of the needs of development and the needs of archaeological research. The development of the town of Kathu in combination with the extensive Earlier Stone Age deposits do not allow for either complete recovery or complete preservation.*'

The Heritage Square mall development was not the first proposed development with a study site impacting on, or party overlying the Kathu Townlands site, former development proposals reported on in Phase 1 Archaeological Impact Assessments (AIA) are non-inclusively listed as:

- Beaumont, P.B. 2006a. (McGregor Museum). Phase 1 Archaeological Impact Assessment Report on Portion 5 of the Farm Uitkoms 463, Kgalagadi District, Northern Cape Province; and
- Beaumont, P.B. 2006b. (McGregor Museum). Phase 1 Archaeological Impact Assessment Report on Portion 48 and the Remaining Portion of Portion 4 of the Farm Bestwood 459, Kgalagadi District, Northern Cape Province.



Map 3: Kathu Townlands site extend recording (Walker *et.al.* 2013)



Map 4: Basic Kathu Townlands site extent (after Walker *et. al.* 2013) in relation to the Heritage Square development and the Neotel Optic Fibre Cable development, with specific reference to the Area 1 line route and associated test pits

Plate 10: Artefacts from the Heritage Mall Phase 2 archaeological mitigation program; archaeological square 1, spit 16 (Walker *et. al.* 2013a)

Plate 11: Artefacts from the Heritage Mall Phase 2 archaeological mitigation program; archaeological square 2, spit 7 & 9 (broken handaxe) (Walker *et. al.* 2013a)

Plate 12: Artefacts from the Heritage Mall Phase 2 archaeological mitigation program; archaeological square 5, spit 6 (Walker *et. al.* 2013a)

4) RESPONSE TO SAHRA COMMENTRY

SAHRA is mandatory responsible for the heritage of South Africa, in accordance with the NHRA 1999, and as heritage commenting agent (NHRA 1999, Section 38) on environmental assessments for purposes of development Environmental Authorizations (EA), the aim of which is to ensure responsible development. SAHRA requirements, as stipulated in the SAHRA comment on a development application and included in the EA sets the baseline for developers to include heritage requirements in project planning and costing, with the very success of any whichever development project directly dependant on close adherence to time-cost-quality budgets as per the project plan. Legal agreements are signed based on the project plan, including the appointment of consultants and staff, the sourcing of construction equipment and materials etc, and pertaining also to legally agreed development delivery dates (Gray & Larson 2008).

The SAHRA Final Comment (2016) on the Neotel Optic Fibre, Kathu, Northern Cape, development states:
'*…The following recommendations and mitigation measures must be incorporated into the Environmental Management Programme (EMPr):*

- *The section of proposed underground cable located between S27°41'26.80; E23°03'52.86" and S27°41'27.96"; E23°04'19.60" must be monitored during the construction phase. A watching brief must be conducted by a qualified archaeologist during the construction phase of the project. A watching brief report detailing the results and findings of the monitoring must be submitted to SAHRA for comment.* [Referred to as Area 1.]
- *Additionally, the section of proposed overhead cables between -27.732756°/23.040074° and -27.738599/23.069755 must be monitored during the construction phase. This section of proposed overhead cables is not located along a provincial road and the level of disturbance is much lower. The likelihood of in-situ archaeological sub-surface remains is higher and any uncovered heritage resources may form part of the greater Kathu Pan Archaeological Landscape. As above, a watching brief must be completed along with a watching brief report for his section.* [Referred to as Area 2.]
- *Detailed chance find procedures must be developed and incorporated into the EMPr for implementation. These procedures must ensure that standard protocols and steps are followed should any heritage resources be uncovered during the construction phase of the project. These procedures should outline the steps and reporting structure to be followed in the instance that heritage resources are found.'*

The SAHRA (2007) Guidelines provide an outline, including procedures, practice standards and reporting requirements for the 3-tiered Phase 1, Phase 2 and Phase 3 heritage Archaeological Impact Assessment (AIA) process. However, the Guidelines do not include '*monitoring*' or '*watching brief*' particulars, as interchangeably used in the SAHRA Final Comment (2016). With reference thereto and as per the NHRA 1999, Section 5(3)(a) and Section 5(3)(b), stipulating:

> **5. General Principles for Heritage Resources Management**
>
> 3. Laws, Procedures and Administrative Practices must –
>
> (a) be clear and generally available to those affected thereby;
>
> (b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby.

REQUEST 1

ArchaeoMaps request documentation / clear explanation of '*monitoring*' and '*watching brief*' requirements, including procedures, practice standards, reporting requirements, expected archaeological outcomes and impact scenarios on development. [This request with cognisance to the expanded explanation of '*watching brief*' provided in the SAHRA Interim Comment (2016) issued after submission of the Interim Report (Van Ryneveld 2016) stating that: '*A watching brief entails the on-site presence of an archaeologist who would examine the trenches dug by the construction vehicles and note the presence of artefacts.*' It is noted that the term '*monitoring*' is not used in the SAHRA Interim Comment (2016).]

REQUEST 2

With reference to standardised heritage compliance practice and the equitable implementation thereof across developers, developments, consulting EAPs and heritage specialists, it is requested that SAHRA forward at least three (3) examples of '*monitoring*' and '*wathcing brief*' heritage compliance reports where an archaeologist was on site for the tenure of construction work / construction work in a designated area for each of the following 4 construction periods:

- 1 week to 1 month;
- 1 month to 3 months;
- 3 months to 6 months; and
- 6 months to 1+years.

Both the SAHRA Final Comment (2016) and the SAHRA Interim Comment (2016) remain particularly problematic with reference to the as yet unclear definitions of '*monitoring*' and '*watching brief*'. It is at present inferred that a '*watching brief*' requires the presence of an archaeologist on site at the time of construction impact, with when (*in-situ*) artefacts are encountered development is to be stopped for archaeological investigation, implying a 'Cease Work Order', with revocation of these, including archaeological investigation, inevitably resulting in months of development delay and having had resulted in development delays of more than a year (this with reference to the NHRA 1999, Section 7(d): '*The identification, assessment and management of the heritage resources of South Africa must – contribute to social and economic development*' and SAHRA's responsibility as heritage commenting agent to ensure responsible development). In the case of the Neotel Optic Fibre Cable, Kathu, Northern Cape, development, the underground cable portion of the development (Area 1) runs partially through the known Kathu Townlands site: Development impact on the site is inherent in the SAHRA approval of the line route. With reference to the overhead cable alignment (Area 2) further significant deposit is expected; the SAHRA Final Comment (2016) states: '*The likelihood of in-situ archaeological sub-surface remains is higher…'.*

The concern here is quality SAHRA commenting for purposes of responsible development (planning, budgeting and implementation), and raising the question why, in accordance with the SAHRA (2007) Guidelines, Phase 2 test pitting and mitigation is not utilized for compliance mitigation purposes, in advance of development impact, where development will impact on known and reasonably inferred significant archaeological deposit and why these standardized mitigation measures are jeopardised for 'Cease Work Order' scenarios on site. '*Monitoring*' and '*watching brief*' heritage compliance requirements are perceived as more 'light weight' by the general heritage, environmental and construction industries than Phase 2 mitigation requirements. However, inherent in these '*monitoring*' and '*watching brief*' recommendations are justly associated 'Cease Work Order' scenarios; raising the question of whether they can be interpreted as non-transparent commenting with respect to heritage impact on development.

REQUEST 3

It is concluded that inherent in the SAHRA Final Comment (2016), stipulating '*monitoring*' and '*watching brief*' heritage compliance requirements for the Neotel Optic Fibre Cable, Kathu, Northern Cape, development, with reference to the underground cable (Area 1) running partially through the known Kathu Townlands site and with more significant archaeological deposits expected along the overhead cable section of the development (Area 2) at least two (2) 'Cease Work Order' scenarios were inscribed / anticipated. – Can SAHRA confirm? Or alternatively explain their anticipated '*monitoring*' and '*watching brief*' archaeological outcomes with specific reference to their Final Comment (2016).

[**NOTE:** Submission of this report and additional documentation should not necessarily be interpreted as intended to address the SAHRA Interim Comment (2016). It is requested that SAHRA respond to the requests contained in this section of the report (Request 1, Request 2 and Request 3) to establish clarity on basic SAHRA compliance requirements and practice, prior to ArchaeoMaps addressing the spectrum of project specific compliance concerns.]

5) REFERENCES

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