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GAMBIT/SECUR

FOR: F. HOFMANN/B. COYLE

1. FOLLOWING MESSAGE IS RETRANSMITTED FOR YOUR INFORMATION: OUOTE

TOPSECRET 031940Z JAN 73 CITE BRISK 2394.

CHAR GE

GAMBIT

FOR L W ROBERTS/H COHEN

FROM

SUBJECT: EVALUATION OF OM-35 SAMPLES

REFERENCES: BRISK 2307, 2343

FOLLOWING THE INITIAL INVESTIGATION OF THE TWO KINDS OF SAMPLES FROM OM-35, REPORTED IN THE REFERENCE TWXS, BRISK HAS PERFORMED A FURTHER INVESTIGATION OF THE SILICA PIECES. IT WAS NOTED THAT THE PIECES HAD A DARK BROWN DEPOSIT PLUS SOME SMALL ACCUMULATIONS OF DIRT IN CORNERS, CRACKS, ETC. SCRAPINGS WERE MADE OF BOTH AND THE RESULTS ARE GIVEN BELOW. THE GENERAL CONCLUSION WAS THAT THE DARK BROWN SCRAPINGS CORRESPOND TO THE TYPES OF METALS WHICH EXISTED IN OM-35; THE DIRT SCRAPINGS SEEM TO BE COMMON DIRT, AS SUSPECTED.

WORKE LEVEN

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ANOTHER QUESTION AROSE AS TO THE PECULIAR NATURE OF TWO SURFACES FROM ADJACENT PIECES. ONE PIECE HAS A SHINY FLAT SURFACE WHICH IS COMMON TO A GRAY FLAT SURFACE ON THE ADJACENT PIECE. AN INVESTIGATION WAS MADE TO DETERMINE WHY ONE WOULD BE GRAY, THE OTHER SHINY.

FOR CLARITY, THREE PIECES ARE DISCUSSED HERE. NUMBER ONE IS A LARGE PIECE FROM THE OUTER EDGE OF THE 58 INCH STEREO MIRROR. NUMBER TWO IS AN ADJACENT PIECE, IDENTIFIED BY ALIGNMENT OF THE COMMON FRACTURE ZONES. NUMBER THREE IS THE NEXT PIECE IN SEQUENCE. PIECES TWO

(b)(3)

AND THREE SHARE THE PECULIAR STRAIGHT SEPARATION ZONE.

1. PIECES ONE AND THREE HAVE THE SAME VISUALLY APPEARING DARK BROWN DEPOSIT, THUS INDICATING A SIMILAR HISTORY. PIECE TWO HAS CONSIDERABLY LESS DEPOSITED MATERIAL; THE DEPOSIT IS NOT AS THICK BUT, LIKE THAT ON TWO AND THREE, UNIFORMLY COVERS THE REFLECTIVE SURFACE SIDE.

2. PIECE TWO SHOWS FRACTURES IN THE STRUT PATTERN THAT APPEAR GRAY LIKE THE FLAT ZONE ON PIECE THREE. UPON CLOSER EXAMINATION THESE STRUTS WERE FOUND TO BE COATED WITH SOME MATERIAL. THE STRUT SURFACES, UPON SCRAPING OF THE DEPOSIT, SHOWED A TYPICAL SHINY GLASS FRACTURE APPEARANCE.

3. THE GRAY ZONE OF PIECE THREE CAN NOT BE REMOVED. CLOSE EXAM-

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INATION OF CHIPPED OUT FLAKES AT THE EDGE OF THE GRAY ZONE SHOWS
SOME GRAYING INTO THE FLAKED OUT AREA. NO OTHER FLAKED AREAS ON
OTHER PIECES SHOW THE LOCALIZED GRAYING. THIS INDICATES THAT THE
GRAYING PROCESS TOOK PLACE AFTER THE CHIPPING HAD BEEN COMPLETED.

4. THE SHINY ZONE OF PIECE TWO IS NOT A FRACTURE. SMALL PITS ARE VISIBLE ON THE ZONE, GIVING INDICATION OF A PROCESS HAVING OCCURRED AFTER HAVING BEEN PITTED.

5. IF PIECES TWO AND THREE ARE CAREFULLY ALIGNED ACCORDING TO THE 2.5 INCH STRUT SPACING (CENTER TO CENTER) THEY DO NOT TOUCH, AS WOULD OCCUR IF THE PIECES HAD A COMMON FRACTURE ZONE. A GAP OF ABOUT ONE-SIXTEENTH TO THREE THIRTY-SECONDS OF AN INCH IS EVIDENT WHEN ALIGNED TO THE STRUT DIMENSIONS.

THE EVIDENCE GIVEN HERE, PLUS OTHER MINOR CLUES INDICATES THAT PIECES TWO AND THREE WERE CUT APART ON A CIRCULAR SAW. PIECE TWO WAS PROBABLY CLEANED IN SOME SOLVENT, AND WAS POLISHED AGAINST A RATHER LARGE POLISHER. NOTE THAT NONE OF THESE OPERATIONS WERE PERFORMED BY BRISK.

PHOTOGRAPHIC RECORDS HAVE BEEN MADE OF THESE DETAILS AND WILL BE HELD IN-HOUSE.

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| PAGE 4 CHARG | GE Ø 131 T o | PSECRE | T |
|--------------|-------------------------|-------------------|--------------|
| | SAMPLE | ANALYSIS (PEF | RCENT) |
| | DARK BROWN | SAMPLES | DIRT |
| | Α | В | |
| AL UM I N UM | 0.9 | 1.5 | 4.0 |
| CALCIUM | *** | - | 1.5 |
| COPPER | 0.002 | 0.04 | 0.004 |
| IRON | 2.5 | 5.0 | 2.0 |
| LEAD | NOT DETEC | TED | 0.007 |
| MAGNESIUM | 1.5 | 2.0 | 0.8 |

