IN SITU RESOURCE UTILIZATION (ISRU III) TECHNICAL INTERCHANGE MEETING
February 11–12, 1999
Lockheed Martin Astronautics, Denver, Colorado

PRELIMINARY AGENDA

Thursday, February 11, 1999
7:45 a.m. REGISTRATION AND CONTINENTAL BREAKFAST

8:45 a.m. WELCOME AND INTRODUCTION

9:00 a.m. Hinners N.*
The Strategic Role of In Situ Resource Utilization for Robotic and Human Missions

9:30 a.m. Finn J. E.*
Low-Power Temperature-Swing Adsorption for Mars Atmospheric Acquisition

10:00 a.m. Clark D. L.*
Mars Atmospheric Acquisition and Compression System: Initial Results

10:30 a.m. BREAK

11:00 a.m. Zubrin R.* Frankie B. Kito T. Muscatello T.
Mars In Situ Propellant Production Utilizing the Reverse Water Gas Shift

11:30 a.m. Frankie B. M.* Zubrin R. M.
Production of Higher Hydrocarbon Species on Mars

12:00 p.m. Sharma P. K.* Rapp D. Rohatgi N. K.
Methane Pyrolysis and Disposing of Resulting Carbon

12:30 p.m. LUNCH and TOUR OF ATLAS AND TITAN LAUNCH VEHICLE
FINAL ASSEMBLY BUILDING (FAB)

2:30 p.m. Minh N. Q.* Chung B. W. Doshi R. Lear G. R. Montgomery K. Ong E. T.
Fabrication and Performance of Zirconia Electrolysis Cells for Carbon Dioxide Reduction for Mars In Situ Resource Utilization Applications

3:00 p.m. Martin J. L.* Corey J. A. Peters T. A.
Low-Cost, High-Performance Cryocoolers for In Situ Propellant Production

3:30 p.m. Mueller P. J.* Durrant T. C.
Cryogenic Propellant Production, Liquefaction, and Storage as a Precursor to a Human Mars Mission

4:00 p.m. BREAK

4:15 p.m. Plachta D.*
NASA’s Cyro Working Group

4:45 p.m. Wegeng R. S.* Sanders G. B.
Microchemical and Thermal Systems for In Situ Resource Utilization

5:15 p.m. WRAP-UP

5:30 p.m. ADJOURN

6:30 p.m. DINNER AT A LOCAL RESTAURANT

* Denotes speaker
CONTINENTAL BREAKFAST

ANNOUNCEMENTS

Blair B. R.*
Potential Commercial Uses of Mars In Situ Propellant Production Technology

Green S. T.* Deffenbaugh D. M. Miller M. A.
Trade Study of Five In Situ Propellant Production Systems for a Mars Sample Return Mission

Kuhl C. A.* Johnson J. E.
Lunar In Situ Propellant Production Technology Research

BREAK

Currier R.* Blacic J. Trkula M.
Hydrogen Plasma Reduction of Planetary Materials

Popovic S.* Ash R. Dinh T. Vuskovic L.
Radio-Frequency Inductively-coupled Discharge for a Hybrid Oxygen Production System

Williams J.* Bratkovich T. Bussing T.
Atmospheric Water Vapor Adsorption for Mars In Situ Resource Utilization

LUNCH and TOUR OF THE ENGINEERING PROPULSION LABORATORY

Kaplan D.*
Mars In Situ Propellant Production Precursor (MIP) Flight Demonstration Project: Overview and Development Unit Testing Results

Karlmann P. B.* Johnson K. R. Rapp D. Wu. J. J.
Development Unit Configuration and Current Status of the Mars In Situ Propellant Production Precursor/Mars Atmospheric Acquisition Compression Experiment

Sridhar K. R.* Gottmann M. Baird R. S.
Oxygen Generator System for Mars In Situ Propellant Production Precursor Flight Experiment

Juanero K. J.* Johnson K. R.
Development Unit Configuration and Current Status of the Mars In Situ Propellant Production Precursor /Mars Thermal Environment-Radiator Characterization Experiment

WRAP-UP

ADJOURN