



1  
00:00:10,070 --> 00:00:08,070  
yes data for uh one five with this

2  
00:00:11,749 --> 00:00:10,080  
latest balloon

3  
00:00:13,350 --> 00:00:11,759  
once you tell me what the two and a half

4  
00:00:15,430 --> 00:00:13,360  
hour balloon showed two and a half hour

5  
00:00:17,349 --> 00:00:15,440  
phone showed that the

6  
00:00:20,150 --> 00:00:17,359  
nominal endpoint seems to be degrading

7  
00:00:23,109 --> 00:00:20,160  
still down to 1300 touchdown with the

8  
00:00:25,750 --> 00:00:23,119  
closed boards okay close in close-in is

9  
00:00:27,750 --> 00:00:25,760  
2200 feet with 20 speed

10  
00:00:30,230 --> 00:00:27,760  
with 20 percent speed break so we still

11  
00:00:32,150 --> 00:00:30,240  
buy close in

12  
00:00:33,670 --> 00:00:32,160  
okay so close in

13  
00:00:36,069 --> 00:00:33,680

knob for one five looks good and we got

14

00:00:37,670 --> 00:00:36,079

a good go 3-3 if we need it i'll be at a

15

00:00:40,069 --> 00:00:37,680

tailwind that's correct a little bit

16

00:00:42,790 --> 00:00:40,079

more dynamic heck maybe yeah

17

00:00:46,150 --> 00:00:42,800

i'll go for the burn on time gc go

18

00:00:50,150 --> 00:00:46,160

guidance go fido go prop go gnc go max

19

00:00:51,670 --> 00:00:50,160

go eagle go ecom go fao go hcl go

20

00:00:56,389 --> 00:00:51,680

dps

21

00:00:59,110 --> 00:00:56,399

inco go uh booster surgeon go

22

00:01:00,709 --> 00:00:59,120

alrighty uh pending weather we'll get

23

00:01:02,950 --> 00:01:00,719

the assessment for this last dive for

24

00:01:05,910 --> 00:01:02,960

the team just tell you where i'm headed

25

00:01:07,750 --> 00:01:05,920

uh based on the sta assessments uh that

26

00:01:09,750 --> 00:01:07,760

we've got thus far

27

00:01:11,510 --> 00:01:09,760

if we're wrong and we have a broken deck

28

00:01:12,789 --> 00:01:11,520

at seven

29

00:01:13,830 --> 00:01:12,799

one it's going to be pretty close to

30

00:01:16,310 --> 00:01:13,840

scattered there's not much

31

00:01:18,310 --> 00:01:16,320

differentiation there

32

00:01:21,270 --> 00:01:18,320

crew's going to have a horizon they have

33

00:01:25,990 --> 00:01:23,670

workload is low on these dives and based

34

00:01:28,149 --> 00:01:26,000

on the sta assessment it would be a safe

35

00:01:29,830 --> 00:01:28,159

approach and

36

00:01:30,870 --> 00:01:29,840

no liens against the vehicle or nav

37

00:01:32,469 --> 00:01:30,880

system

38

00:01:34,710 --> 00:01:32,479

so i feel pretty good about pressing

39

00:01:36,550 --> 00:01:34,720

into this opportunity so we'll get this

40

00:01:38,630 --> 00:01:36,560

next dive assessment and make a final

41

00:01:41,190 --> 00:01:38,640

recommendation

42

00:01:43,350 --> 00:01:41,200

it looks like uh for the most part uh

43

00:01:45,030 --> 00:01:43,360

through the earlier dive and uh and

44

00:01:47,350 --> 00:01:45,040

currently with this last dive that uh

45

00:01:49,270 --> 00:01:47,360

free just executed the uh

46

00:01:50,149 --> 00:01:49,280

the cloud layers he's seeing if anything

47

00:01:53,190 --> 00:01:50,159

are

48

00:01:55,990 --> 00:01:53,200

very thin in the uh like in the 8 000 to

49

00:01:59,910 --> 00:01:56,000

7 500 foot region uh from the earlier

50

00:02:01,910 --> 00:01:59,920

report it was uh 8 000 to 7 500 foot and

51  
00:02:03,270 --> 00:02:01,920  
he was reporting able to see xenons

52  
00:02:04,870 --> 00:02:03,280  
through that layer

53  
00:02:06,230 --> 00:02:04,880  
from the first dive his workload was

54  
00:02:09,430 --> 00:02:06,240  
very low

55  
00:02:12,710 --> 00:02:09,440  
when he did press out after that dive um

56  
00:02:15,430 --> 00:02:12,720  
out to uh 31 miles out 2-1-0

57  
00:02:17,270 --> 00:02:15,440  
um he only detected like about a mile

58  
00:02:19,670 --> 00:02:17,280  
wide swath of

59  
00:02:20,550 --> 00:02:19,680  
of a single cloud layer

60  
00:02:23,589 --> 00:02:20,560  
that was

61  
00:02:26,470 --> 00:02:23,599  
anything of note but nothing significant

62  
00:02:27,670 --> 00:02:26,480  
he was 10 000 feet

63  
00:02:30,630 --> 00:02:27,680

at the time

64

00:02:32,070 --> 00:02:30,640  
and didn't see anything beneath

65

00:02:34,949 --> 00:02:32,080  
at that point

66

00:02:37,270 --> 00:02:34,959  
from the last dive he made

67

00:02:40,229 --> 00:02:37,280  
approach from the 180 to final

68

00:02:41,990 --> 00:02:40,239  
saw good cultural lighting uh through uh

69

00:02:43,270 --> 00:02:42,000  
numerous cities throughout the turn he

70

00:02:44,710 --> 00:02:43,280  
was able to see

71

00:02:47,750 --> 00:02:44,720  
in the distance so good cultural

72

00:02:50,790 --> 00:02:47,760  
lighting uh visibility through

73

00:02:53,670 --> 00:02:50,800  
between 12 000 8 thousand there was a

74

00:02:55,110 --> 00:02:53,680  
layer uh the that was uh it looked like

75

00:02:57,830 --> 00:02:55,120  
two distinct layers he thought he was

76  
00:03:00,710 --> 00:02:57,840  
vmc between the two and they were both

77  
00:03:02,869 --> 00:03:00,720  
uh fairly thin

78  
00:03:05,509 --> 00:03:02,879  
and then below eight thousand feet uh it

79  
00:03:07,750 --> 00:03:05,519  
was vmc to the deck

80  
00:03:10,630 --> 00:03:07,760  
he thinks that was kind of a centralized

81  
00:03:12,470 --> 00:03:10,640  
uh just one centralized uh cloud

82  
00:03:14,710 --> 00:03:12,480  
grouping and doesn't think it's going to

83  
00:03:16,070 --> 00:03:14,720  
be an issue so uh he sees the workload

84  
00:03:19,350 --> 00:03:16,080  
is very low

85  
00:03:21,830 --> 00:03:19,360  
even if it was to uh uh be a 7000 foot

86  
00:03:23,509 --> 00:03:21,840  
broken layer should not be an issue uh

87  
00:03:25,270 --> 00:03:23,519  
and that's just he doesn't think there's

88  
00:03:27,350 --> 00:03:25,280

a seven thousand but broken layers just

89

00:03:29,990 --> 00:03:27,360

i understand if we press them for

90

00:03:31,910 --> 00:03:30,000

seven thousand uh based on the forecast

91

00:03:34,070 --> 00:03:31,920

it should be no issue for the landing

92

00:03:35,509 --> 00:03:34,080

okay good summary scorch i appreciate

93

00:03:36,949 --> 00:03:35,519

that let's get the dive numbers from him

94

00:03:38,550 --> 00:03:36,959

real quick he can hold the winds until

95

00:03:41,430 --> 00:03:38,560

the last and just give us the touchdown

96

00:03:43,670 --> 00:03:41,440

conditions we'll get him

97

00:03:45,589 --> 00:03:43,680

endeavor houston zimmer

98

00:03:47,830 --> 00:03:45,599

norm went around the room the only thing

99

00:03:49,589 --> 00:03:47,840

we don't have insight to is block 29 and

100

00:03:52,070 --> 00:03:49,599

we assume you got that all set all right

101  
00:03:54,229 --> 00:03:52,080  
in the deorbit prep that was just the uh

102  
00:03:58,630 --> 00:03:54,239  
mid-deck speaker so if you're happy

103  
00:04:02,309 --> 00:04:00,869  
okay and uh cj that is

104  
00:04:03,910 --> 00:04:02,319  
still on those guys are going to turn

105  
00:04:05,110 --> 00:04:03,920  
that off as part of their serial process

106  
00:04:07,350 --> 00:04:05,120  
so

107  
00:04:09,429 --> 00:04:07,360  
that is a complete check and uh thanks

108  
00:04:10,949 --> 00:04:09,439  
very much for backing us up

109  
00:04:12,949 --> 00:04:10,959  
they have a go for the deer barn all

110  
00:04:16,069 --> 00:04:12,959  
right

111  
00:04:17,990 --> 00:04:16,079  
give them a weather summary after that

112  
00:04:22,230 --> 00:04:18,000  
endeavor houston you are go for the

113  
00:04:27,909 --> 00:04:25,670

copy your goal for the orbit

114

00:04:29,830 --> 00:04:27,919

real briefly uh fergie's been

115

00:04:32,790 --> 00:04:29,840

flying around the sta he's done a couple

116

00:04:34,230 --> 00:04:32,800

dives to ksc one five he says it's a

117

00:04:37,030 --> 00:04:34,240

great night to

118

00:04:39,590 --> 00:04:37,040

land in florida uh there may be a couple

119

00:04:40,790 --> 00:04:39,600

of very thin decks that you might punch

120

00:04:43,350 --> 00:04:40,800

through

121

00:04:45,110 --> 00:04:43,360

he's breaking out just at eight thousand

122

00:04:47,030 --> 00:04:45,120

feet with nothing below and the last

123

00:04:48,870 --> 00:04:47,040

deck was so thin he could see through it

124

00:04:51,430 --> 00:04:48,880

in most places so

125

00:04:56,629 --> 00:04:51,440

it looks really good for ksc

126  
00:05:32,070 --> 00:04:58,150  
thanks very much and thanks to fergie

127  
00:05:35,029 --> 00:05:33,510  
flightcraft two engines are impressed

128  
00:05:37,430 --> 00:05:35,039  
good config for the burn good convict

129  
00:05:39,590 --> 00:05:37,440  
for the barn capcom endeavor houston you

130  
00:05:42,390 --> 00:05:39,600  
are in a good config for the deorbit

131  
00:05:42,400 --> 00:05:47,990  
can't be good for the burn

132  
00:05:51,430 --> 00:05:49,430  
flight guidance good burn no trim

133  
00:05:56,790 --> 00:05:51,440  
required good burn

134  
00:05:56,800 --> 00:06:01,510  
happy good burn return required

135  
00:06:04,710 --> 00:06:02,790  
all right

136  
00:06:08,710 --> 00:06:04,720  
good burn folks and we're in the post

137  
00:06:12,790 --> 00:06:10,710  
property deltas

138  
00:06:14,870 --> 00:06:12,800

negative flight no deltas

139

00:06:18,230 --> 00:06:14,880

see dps and gun it's three or three on

140

00:06:20,870 --> 00:06:18,240

time guys go cps to go

141

00:06:22,629 --> 00:06:20,880

any deltas to the gimbal powered in

142

00:06:24,230 --> 00:06:22,639

no delta's flight okay secondary

143

00:06:26,150 --> 00:06:24,240

activator check not required there's no

144

00:06:27,670 --> 00:06:26,160

required sir

145

00:06:29,110 --> 00:06:27,680

prop you'll give me a dump time once you

146

00:06:30,469 --> 00:06:29,120

get a better handle on it we'll go

147

00:06:32,309 --> 00:06:30,479

flight

148

00:06:34,230 --> 00:06:32,319

and if you had any

149

00:06:35,830 --> 00:06:34,240

thoughts on jet deselect or anything for

150

00:06:37,430 --> 00:06:35,840

your time

151  
00:06:39,189 --> 00:06:37,440  
no i will have enough forward where

152  
00:06:41,110 --> 00:06:39,199  
it'll be long enough all righty good

153  
00:06:45,430 --> 00:06:41,120  
deal high fluid thermal conditioning not

154  
00:06:45,440 --> 00:06:50,309  
flight final fido

155  
00:06:53,909 --> 00:06:52,469  
and radars are all green and ready to

156  
00:06:54,870 --> 00:06:53,919  
support at the cape

157  
00:06:58,550 --> 00:06:54,880  
and

158  
00:06:59,990 --> 00:06:58,560  
northrop okay you have a go to release

159  
00:07:03,510 --> 00:07:00,000  
edwards north uptown thanks for their

160  
00:07:06,309 --> 00:07:03,520  
support i greatly appreciate it and

161  
00:07:10,790 --> 00:07:06,319  
keep me status on the ksc

162  
00:07:14,230 --> 00:07:12,550  
slight weather on the flight loop see

163  
00:07:16,950 --> 00:07:14,240

you got our latest knobs

164

00:07:19,430 --> 00:07:16,960

i do latest observation

165

00:07:20,790 --> 00:07:19,440

just got in from the cape and it is a go

166

00:07:24,550 --> 00:07:20,800

observation

167

00:07:28,150 --> 00:07:24,560

broken at 11 000 overcast at 20 000.

168

00:07:30,790 --> 00:07:28,160

okay broken at 11 overcast 20 and the

169

00:07:33,670 --> 00:07:30,800

sda pilot reported that uh it's

170

00:07:35,670 --> 00:07:33,680

scattered at around 12 right now in a

171

00:07:38,870 --> 00:07:35,680

real beautiful view under that of the

172

00:07:40,550 --> 00:07:38,880

runway and a really nice setup so

173

00:07:48,309 --> 00:07:40,560

cj we'll pass that on to him after we

174

00:07:58,230 --> 00:07:51,990

houston energy ground track and nav are

175

00:08:03,350 --> 00:08:01,189

endeavor copies

176

00:08:05,270 --> 00:08:03,360

econ do you see your 12k steps

177

00:08:08,550 --> 00:08:05,280

but economy got good rad flow after 12k

178

00:08:20,950 --> 00:08:12,550

if i got it guns take gps

179

00:08:26,469 --> 00:08:23,430

endeavor houston latest report from

180

00:08:28,629 --> 00:08:26,479

fergie and the sta is that it's widely

181

00:08:30,629 --> 00:08:28,639

scattered below at twelve thousand feet

182

00:08:34,469 --> 00:08:30,639

it's a beautiful night to land in

183

00:08:41,670 --> 00:08:36,310

yeah sounds very beautiful houston and

184

00:08:44,710 --> 00:08:42,870

let's see fido how are we looking

185

00:08:46,710 --> 00:08:44,720

approaching the hack on energy as we

186

00:08:48,949 --> 00:08:46,720

approach no changes to winter weather

187

00:08:50,550 --> 00:08:48,959

all right gnc advisories

188

00:08:57,990 --> 00:08:50,560

no advisories we did get a good reboot

189

00:09:02,550 --> 00:09:00,310

endeavor houston you are on energy

190

00:09:11,829 --> 00:09:02,560

approaching the hack no change to wins

191

00:09:11,839 --> 00:09:22,310

deploy

192

00:09:22,320 --> 00:09:30,550

why'd you see the pilot enough line copy

193

00:09:41,269 --> 00:09:32,550

on at the 180

194

00:09:59,110 --> 00:09:42,870

in flight the commander is now flying

195

00:09:59,120 --> 00:10:12,949

gear down and lock copy gear

196

00:10:12,959 --> 00:10:33,190

manger touchdown copy

197

00:10:33,200 --> 00:10:37,590

great landing

198

00:10:41,190 --> 00:10:39,670

max any concern with the burning plume

199

00:11:00,470 --> 00:10:41,200

not in flight not enough crosstalk to

200

00:11:03,590 --> 00:11:02,310

okay folks we're getting in the post

201  
00:11:05,030 --> 00:11:03,600  
landing here sing out when you see your

202  
00:11:08,150 --> 00:11:05,040  
steps

203  
00:11:13,269 --> 00:11:11,230  
roger wheel stop endeavor welcome home

204  
00:11:15,350 --> 00:11:13,279  
congratulations to you and the crew on

205  
00:11:17,030 --> 00:11:15,360  
an outstanding mission

206  
00:11:18,870 --> 00:11:17,040  
installing the tranquility node and

207  
00:11:23,670 --> 00:11:18,880  
opening up the cupola's windows to the

208  
00:11:27,110 --> 00:11:25,670  
it's great to be home it was a great

209  
00:11:29,269 --> 00:11:27,120  
adventure

210  
00:11:31,110 --> 00:11:29,279  
we copy zambo there are no immediate