APPENDIX 6-6

DH-4, DRILLERS LOG

INCORPORATED
APR 15 2005
DIV OF OIL GAS & MINING

PROJECT HUNTINGTON CANYON UT
LOCATION

SPUDDING DATE: 28JUN81
COMPLETION DATE: 21JUL81

COLLAR
COORDINATE TYPE: SPC
EASTING: 2096450.95000
NORTHING: 407268.40000
ELEVATION: 9374.74000

MISCELLANEOUS
TOTAL DEPTH: 1848.00
SURFACE OWNER: US FOREST SERVICE
COAL LEASE NO: U-45007
GEOLOGISTS: BLANCHARD GREGORY

DRILLING COMPANY: BEEMAN/ROBILOW
DRILLERS: CUNNINGHAM-CORE
BIT SIZE: 6.25"
CORE SIZE: 2.5" NC
DRILLING MEDIUM: AIR-FOAM&WATER SOAP
CASING DEPTH: 1393
BEDROCK DEPTH: SURFACE
WATER ENCOUNTERED: 520

WELL SURVEY COMPANY: ARCO OIL&GAS/DIGILOG
OPERATORS: J.SMITH/R.BOUFFARD
LOGS: GAMMA,SP,RES,DENS,CAL
CEMENTED INTERVALS: 1562-1340, SURFACE PLUG

*** COAL SUMMARY ***

COAL SEAM	TOP	BOTTOM	THICK -NESS	INCR BCY/TON	CUM BCY/TON
TKNH	0.00	15.00	15.00		
KPV	15.00	71.00	56.00		
KC	354.00	646.80	292.80		
KB	646.80	1274.80	628.00		
UNN	1274.80	1275.80	1.00		
UNN	1295.40	1296.50	1.10		
UNN	1371.00	1373.00	2.00		
BLDCYN	1404.20	1406.20	2.00		
BLDCYN	1407.20	1409.10	1.90		
UNN	1458.60	1460.30	1.70		
HIA	1510.00	1515.00	5.00		
UNN	1515.50	1515.60	0.10		
KSP	1515.60	1520.00	4.40		

*** CORE RETRIEVAL ***

CORE NO.	TOP	BOT	CUT	REC	CORE NO.	TOP	BOT	CUT	REC
D	0.00	1391.60	0.00	0.00					
1	1391.60	1392.80	1.20	1.20					
2	1392.80	1403.50	10.70	10.00					
3	1403.50	1413.80	10.30	10.00					
13	1404.60	1515.00	10.00	10.40					
4	1413.80	1423.80	10.00	10.00					
5	1423.80	1434.00	10.00	10.20					
6	1434.00	1444.40	10.00	10.40					
7	1444.40	1454.50	10.00	10.10					
8	1454.50	1465.10	10.00	10.60					
9	1465.10	1475.30	10.00	10.20					
10	1475.30	1484.30	10.00	9.00					
11	1484.30	1494.50	10.00	10.20					
12	1494.50	1504.60	10.00	10.10					
14	1515.00	1525.00	10.00	10.00					
D	1525.00	1564.50	0.00	0.00					

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TOP	BOTTOM	THICK	FORM-ATION	SEAM	ROCK CODE	ROCK TYPE	DESCRIPTION
0.00	15.00	15.00	TKNH	TKNH	300	SHALE	WITH SANDSTONE INTERBEDS: .
15.00	71.00	56.00	KPV	KPV	600	SANDSTONE	: TOP UNIT OF 'GREAT WHITE SS
71.00	91.50	20.50			320	SHALE	WITH SANDSTONE INTERBEDS, 25 - 50% SS: .
91.50	159.00	67.50			600	SANDSTONE	: LOWER UNIT OF GREAT WHITE SS
159.00	354.00	195.00			320	SHALE	WITH SANDSTONE INTERBEDS, 25 - 50% SS: BASE OF PRICE RIVER
354.00	520.00	166.00	KC	KC	630	SANDSTONE	LIGHT, VERY FINE-FINE GRAINED: .
520.00	541.00	21.00	KC	KC	320	SHALE	WITH SANDSTONE INTERBEDS, 25 - 50% SS: SHALE UNIT OF CASTLEGATE SS
541.00	646.80	105.80	KC	KC	630	SANDSTONE	LIGHT, VERY FINE-FINE GRAINED: LOWER UNIT OF CASTLEGATE
646.80	1274.80	628.00	KB	KB	300	SHALE	WITH SANDSTONE INTERBEDS: .
1274.80	1275.80	1.00	UNN	UNN	900	COAL	: .
1275.80	1295.40	19.60			300	SHALE	WITH SANDSTONE INTERBEDS: .
1295.40	1296.50	1.10	UNN	UNN	900	COAL	: .
1296.50	1371.00	74.50			300	SHALE	WITH SANDSTONE INTERBEDS: .
1371.00	1373.00	2.00	UNN	UNN	900	COAL	: .
1373.00	1385.00	12.00			300	SHALE	WITH SANDSTONE INTERBEDS: .
1385.00	1391.60	6.60			500	SANDSTONE	WITH SHALE INTERBEDS: .
1391.60	1392.80	1.20			513	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINED GRAINED, RIPPLE BEDDED: .
1392.80	1393.20	0.40			513	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINED GRAINED, RIPPLE BEDDED: .
1393.20	1393.50	0.30			420	SILTSTONE	DARK: FG INTBDS SOFT SED. DEFORMATION
1393.50	1394.00	0.50			163	CLAYSTONE	DARK, HARD, ABUNDANT SLICKENSIDES: COAL STREAKS
1394.00	1394.20	0.20			922	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY: BANDED RESINOUS
1394.20	1394.50	0.30			252	SHALE	BLACK, HARD, PLATY: CARB COAL STREAKS
1394.50	1399.00	4.50			933	COAL	DULL-MEDIUM BRIGHT, BLOCKY WITH CALCITE CLEAT FILL: RESINOUS
1399.00	1399.20	0.20	6.5' Coal	Bld Cyn.	970	FUSAIN	: RESINOUS
1399.20	1399.40	0.20			920	COAL	MEDIUM BRIGHT-BRIGHT: V.BROKEN
1399.40	1401.00	1.60			0	LOST	: COAL-GEOPHYSICAL LOG
1401.00	1402.30	1.30			160	CLAYSTONE	DARK, HARD: COAL SPARS
1402.30	1402.70	0.40			252	SHALE	BLACK, HARD, PLATY: CARB COAL STREAKS RESINOUS
1402.70	1403.20	0.50	coal		920	COAL	MEDIUM BRIGHT-BRIGHT: RESINOUS
1403.20	1403.30	0.10			252	SHALE	BLACK, HARD, PLATY: CARB COAL STREAKS
1403.30	1403.50	0.20			163	CLAYSTONE	DARK, HARD, ABUNDANT SLICKENSIDES: COAL BANDS
1403.50	1404.20	0.70			163	CLAYSTONE	DARK, HARD, ABUNDANT SLICKENSIDES: COAL BANDS
1404.20	1405.30	1.10	BLDCYN	BLDCYN	923	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY WITH CALCITE CLEAT FILL: RESINOUS
1405.30	1405.90	0.60	BLDCYN	BLDCYN	923	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY WITH CALCITE CLEAT FILL: RESINOUS V.BROKEN
1405.90	1406.20	0.30	BLDCYN	BLDCYN	0	LOST	: COAL-GEOPHYSICAL LOG
1406.20	1406.80	0.60			428	SILTSTONE	DARK, ROOTED: .
1406.80	1407.20	0.40			252	SHALE	BLACK, HARD, PLATY: CARB SLKN
1407.20	1409.10	1.90	BLDCYN	BLDCYN.	922	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY: RESINOUS
1409.10	1409.60	0.50			252	SHALE	BLACK, HARD, PLATY: CARB SLKN
1409.60	1413.80	4.20			428	SILTSTONE	DARK, ROOTED: CARB COAL BANDS COARSENS UPWARD
1413.80	1423.80	10.00			438	SILTSTONE	LIGHT, ROOTED: BURROWED AT BASE
1423.80	1427.60	3.80			517	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINE GRAINED, BURROWED: .
1427.60	1429.00	1.40			722	CONGLOMERATE	SANDSTONE MATRIX, SHALE PEBBLES: FG MATRIX LT GREY
1429.00	1429.80	0.80			540	SANDSTONE	W/SHALE INTBDS., 25-50% SHALE, MED. TO COARSE GR.: .
1429.80	1434.00	4.20			674	SANDSTONE	LIGHT, MEDIUM - COARSE GRAINED, CROSS-BEDDED: COAL SPARS SOFT SED.DEFORMATION
1434.00	1437.70	3.70			664	SANDSTONE	DARK, MEDIUM - COARSE GRAINED, CROSS-BEDDED: COARSE FOS CALCAREOUS SHALE AND QTZ PEBBLES
1437.70	1439.10	1.40			676	SANDSTONE	LIGHT, MEDIUM - COARSE GRAINED, WITH COAL INCLUSIONS: MEDIUM GRNED COAL SPARS AT BASE CALCAREOUS
1439.10	1440.10	1.00			252	SHALE	BLACK, HARD, PLATY: COAL BANDS
1440.10	1444.40	4.30			428	SILTSTONE	DARK, ROOTED: BURROWED AT BASE CALCAREOUS. FINES UP
1444.40	1449.70	5.30			438	SILTSTONE	LIGHT, ROOTED: FG INTBDS CALCAREOUS

INCORPORATED
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DIV OF OIL GAS & MINING

HOLE NUMBER: HC-4

ARCO COAL COMPANY
BEAVER CREEK OPERATIONS -HUNTINGTON
LITHOLOGY LOG

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TOP	BOTTOM	THICK	FORMATION	SEAM	ROCK CODE	ROCK TYPE	DESCRIPTION
1449.70	1450.70	1.00			426	SILTSTONE	DARK, WITH COAL INCLUSIONS: FOSSILIZED BONE PYR CALCAREOUS
1450.70	1451.80	1.10			160	CLAYSTONE	DARK, HARD: .
1451.80	1452.50	0.70			252	SHALE	BLACK, HARD, PLATY: RESINOUS COAL BANDS
1452.50	1452.60	0.10			920	COAL	MEDIUM BRIGHT-BRIGHT: BANDED
1452.60	1452.90	0.30			252	SHALE	BLACK, HARD, PLATY: COAL BANDS
1452.90	1454.20	1.30			422	SILTSTONE	DARK, MASSIVE: .
1454.20	1454.50	0.30			513	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINED GRAINED, RIPPLE BEDDED: CALCAREOUS
1454.50	1458.60	4.10			513	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINED GRAINED, RIPPLE BEDDED: CALCAREOUS COAL STKAT BASE
1458.60	1458.80	0.20	UNN	UNN	965	BONE	BLOCKY WITH PYRITE CLEAT FILL: COAL BANDS RESINOUS0.05 BLACK CARB SH AT BASE
1458.80	1460.30	1.50	UNN	UNN	922	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY: RESINOUS BROKEN
1460.30	1463.70	3.40			252	SHALE	BLACK, HARD, PLATY: 50% COAL STREAKS
1463.70	1465.10	1.40			426	SILTSTONE	DARK, WITH COAL INCLUSIONS: CARB
1465.10	1469.10	4.00			426	SILTSTONE	DARK, WITH COAL INCLUSIONS: .
1469.10	1470.60	1.50			517	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINE GRAINED, BURROWED: COAL STREAKS
1470.60	1473.10	2.50			426	SILTSTONE	DARK, WITH COAL INCLUSIONS: FOS
1473.10	1475.30	2.20			518	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINE GRAINED, ROOTED: BURROWED CALCAREOUS V.HD
1475.30	1479.30	4.00			634	SANDSTONE	LIGHT, VERY FINE-FINE GRAINED, CROSS-BEDDED: CALCAREOUS HD
1479.30	1481.70	2.40			517	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINE GRAINED, BURROWED: CALCAREOUS HD
1481.70	1483.30	1.60			514	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINED GRAINED, CROSS-BEDDED: CALCAREOUS
1483.30	1484.30	1.00			634	SANDSTONE	LIGHT, VERY FINE-FINE GRAINED, CROSS-BEDDED: CALCAREOUS
1484.30	1490.00	5.70			513	SANDSTONE	WITH SHALE INTBDS., 5 - 25% SHALE VERY FINE TO FINED GRAINED, RIPPLE BEDDED: SH PEBBLE CLASTS FINING UPWARD CALCAREOUS
1490.00	1494.50	4.50			534	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, CROSS-BEDDED: FINING UPWARD
1494.50	1504.60	10.10			534	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, CROSS-BEDDED: CALCAREOUS
1504.60	1510.00	5.40			534	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, CROSS-BEDDED: CALCAREOUS
1510.00	1515.00	5.00	HIA	HIA	925	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY WITH PYRITE CLEAT FILL: BANDED RESINOUS CALCITE CLEAT FILL
1515.00	1515.50	0.50			538	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, ROOTED: CHURNED CARB
1515.50	1515.60	0.10	UNN	UNN	923	COAL	MEDIUM BRIGHT-BRIGHT, BLOCKY WITH CALCITE CLEAT FILL: .
1515.60	1520.00	4.40	KSP	KSP	538	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, ROOTED: RIPPLED CALCAREOUS
1520.00	1525.00	5.00			534	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, CROSS-BEDDED: CARB DEBRIS CALCAREOUS
1525.00	1564.50	39.50			534	SANDSTONE	W/SHALE INTBDS., 5-25% SHALE, MED. TO COARSE GRAINED, CROSS-BEDDED: CARB DEBRIS, OPHIOMORPHA, CALCAREOUS

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