



Salt Lake-1
Drill Data
Folder
(W583)

913534 001

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SALT LAKE NO. 1

W583

CHILDERS FORMATION

ex Hocking 1965

913534 002

"Sub-Basaltic Sediments: These consist of coarse sands and gravels with minor beds of clay and coal. The gravels include rock fragments, and often have a clayey matrix.

The thickness of these beds varies considerably and has obviously been controlled by the relief of the underlying Mesozoic surface. In Woodside No. 1 well the thickness is 155 feet while in Woodside No. 2 well, only 3 miles south-west of the former, the gravels are absent.

The sub-basaltic gravels are salt-water-bearing, as is indicated by both the pronounced negative deflection on the SP curves, and the very low resistivity compared with that of the fresh-water sands of the Upper Latrobe Valley Coal Measures.

A porosity (by core analysis) of 12.6% is recorded for a gravel sample from Darriman No. 1 well."

LIST OF ABBREVIATIONS

The abbreviations of nouns are given since the same abbreviation is used for a noun and the corresponding adjective, the former beginning with a capital, the latter with a small letter.

913534 003

Abundant	abd	Lamination, laminated	Lam, lam
And	+	Light	Lt
Argillaceous	arg	Loose	lse
Brown	brn	Medium	m
Bryozoa	Bry	Mica	Nic
		Moderate	mod
Calcite	Calc		
Calcareous	calc	Nodules	Nod
Carbonaceous	carb		
Cement	Cem	Occasional	Occ
Cemented	cmt		
Clay	Cl	Pale	pl
Coal	C	Pebble	Pbl
Coarse	crs	Plant remains	Plt Rem
Coral	Cor	Plastic	Plas
Crystalline	xin	Porosity	Por
		Pyrite	Pyr
Dark	dk		
		Quartz	Qz
Echinoids	Echin	Quartzose	Qzs
Feldspar	Fld	Sandy	s
Ferruginous	fe	Silica	Si
Fine	f	Siliceous, sillicified	si
Foraminifera	Foram	Silt	Slt
Fossils	Foss	Sorting	Srt
Fragment	Frag	Streak	Strk
Friable	fri	Subangular	Subang
		Subrounded	Subrnd
Gastropods	Gast		
Glauconite	Glc	Trace	Tr
Grain size	Grn		
Granule	Gran	Unconsolidated	Unconsol
Green	gn	Unfossiferous	Unfoss
Grey	gy		
		White	wh
Hard	Hd		
		Yellow	yel
Interbedded	intbd		
Including	incl		
Kaolin	Kao		

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913534 004

Abundant	abd	Lamination, laminated	Lam, lam
And	+	Light	Lt
Argillaceous	arg	Loose	lse
Brown	brn	Medium	m
Bryozoa	Bry	Mica	Nic
		Moderate	mod
Calcite	Calc		
Calcareous	calc	Nodules	Nod
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Cemented	cmt		
Clay	Cl	Pale	pl
Coal	C	Pebble	Pbl
Coarse	crs	Plant remains	Plt Rem
Coral	Cor	Plastic	Plas
Crystalline	xin	Porosity	Por
		Pyrite	Pyr
Dark	dk		
		Quartz	Qz
Echinoids	Echin	Quartzose	Qzs
Feldspar	Fld	Sandy	s
Ferruginous	fe	Silica	Si
Fine	f	Siliceous, sillicified	si
Foraminifera	Foram	Silt	Slt
Fossils	Foss	Sorting	Srt
Fragment	Frag	Streak	Strk
Friable	fri	Subangular	Subang
		Subrounded	Subrnd
Gastropods	Gast		
Glaucinite	Glc	Trace	Tr
Grain size	Grn		
Granule	Gran	Unconsolidated	Unconsol
Green	gn	Unfossiferous	Unfoss
Grey	gy		
		White	wh
Hard	Hd		
		Yellow	yel
Interbedded	intbd		
Including	incl		
Kaolin	Kao		

UNITED GEOPHYSICAL CORPORATION

OBSERVER'S REPORT

Sheet No. 1 of 1

Date 5th May 1970

Time Left Town

Seismograph Party No. 141

Base *Bouabane*

Province

Prospect SALT LAKE N°1

Truck No.

Inst. Series No. 157

Type Geo. SSC-6GE-101

Geo. Group

Wind Measured

Weather

LINE AND SHOT POINT NO.	BEARING TOP BOTTOM	DEPTH	GROUP SEPARATION	RECORD NO.	TAPE NO.	FILTER	CHARGE	DEPTH	TIME	REMARKS
6.		5285		A			40	29-40	1145.	1200 - 1325 <i>bag pull out to repair subcharger cable insulation</i>
5.		4720		B			50	25-40	1155.	
6.		2550		C			30	28-38	1200.	
1		2215		D			30	26-36	1325.	
2.		2386		E			30	35-40	1330	
3.		2550		F			50	21-38	1340	EXPLOSIVES USED
4		4720		G			60	20-30	1350	
1		5285		H			70	23-41	1400	1400 NO ANZITE BOOSTERS
2.		3600		I			30	30-40	1415.	50 SEISMIC BOOSTERS
1		3000		J			20	32-39	1425.	40x100ft DETONATORS
4		1992		K			20	29-36	1435	
5.		1050		L			10	26-29	1450	
7.										(Balance of Boosters & Cais DESTROYED)
				1			1	15.	1847	
				2			1	35.	1846	
				3			1	55.	1845	
				4			1	75.	1841	
				5			1	95.	1840	
				6			1	115.	1836	
				7			1	135.	1835	
				8			2	155.	1831	
				9.			2	173.	1830	
TOTALS				21			440			

UPHOLE SURVEY

RECORDS

DYNAMITE

Distribution ORIGINAL - To Client
 DUPLICATE - Party File
 TRIPLICATE - Supervisor
 QUADRUPPLICATE - Remains in Book

Time Left Field

Time Arrived Town

Signed

OBSERVER

Wind

Weather

PARTY CHIEF/MGR.

REPORT ALL ACCIDENTS, HOWEVER SLIGHT

913534 006

PROSPECT SALT LAKE COUNTY _____ STATE Vic. DATE _____ PAGE _____SURVEYOR LARSEN RODMAN MOORE PARTY 141 NOTES CHK'D _____

	INST STA	ROD STA	BEARING	STADIA DIST	VERT L	$\frac{1}{2}$ SIN 2L	V	ROD INTCP	DIFF ELEV	H.I.	ELEV	REMARKS
Δ 1	#6	RT	N51°00'E	520	+1°10'		-10.61	+6.0	-4.61	69.64		GL 62.81
0 2		GL	N55°00'E	4.96	0°		-8.2				61.44	RT 74.25
0 3		#6	SETUP #6					5.5			64.14	413 75.58
0 4		#5	S45°30'E	30				3.2			64.44	
0 5		#4	S50°00'E	60				5.2			64.44	
0 6		#3	S50°00'E	92				5.0			64.64	
0 7		#2	S51°30'E	122				5.6	✓		64.04	
0 8		#1	S54°00'E	152				5.4			64.24	
	N40°00'E	GL	N55°00'E	478				8.2			61.44	
10		RT	N36°30'E	509	+0°38'		+5.65	-1.0	+4.65		74.29	
11		#2	SETUP ON #2					5.6				
12												
13												
14												
15												

913534 007

DIPMETER PRINT - OFF

DEPTH	GD	DIP		DIP		HOLE DIA.
		ANGLE	DIR.	ANGLE	DIR.	
5383.0	3.	3.5	21	0.6	255	8.0
5381.0	3	6.8	309	0.6	260	8.0
5379.0	3	3.0	304	0.6	260	8.0
5376.0	3	2.9	325	0.6	260	8.1
5373.0	3	6.3	325	0.5	265	8.1
5371.0	3	13.6	356	0.6	255	8.0
5369.0	3	8.0	184	0.5	255	8.1
5367.0	3	9.5	191	0.5	265	8.0
5365.0	3	3.4	298	0.5	255	8.0
5363.0	3	8.3	167	0.5	265	8.0
5361.0	3	7.4	181	0.5	250	8.1
5359.0	3	3.8	256	0.6	245	8.0
5357.0	3	7.3	29	0.7	245	8.0
5353.0	3	2.5	6	0.6	250	8.3
5350.0	3	18.6	135	0.5	260	8.1
5348.0	3	4.6	276	0.5	260	8.1
5345.0	3	3.1	63	0.4	250	8.3
5342.0	3	0.8	182	0.3	260	8.1
5339.0	3.	16.9	122	0.1	265	8.2
5338.0	3	15.4	107	0.1	270	8.1
5335.0	3	3.9	109	0.1	275	8.1
5332.0	3	2.5	92	0.1	275	8.1
5329.0	3	3.8	268	0.2	290	8.2
5326.0	3	8.4	198	0.1	295	8.2
5323.0	3	13.1	151	0.0	295	8.2
5319.0	3	20.1	111	0.0	300	8.2
5316.0	3	11.1	73	0.0	280	8.2
5313.0	3	3.7	89	0.0	280	8.2
5311.0	3	12.8	173	0.0	290	8.2
5307.0	3	2.1	11	0.0	285	8.2
5303.0	3	2.1	95	0.2	260	8.1
5300.0	3	2.9	119	0.2	260	8.2
5297.0	3	4.0	86	0.2	255	8.1
5294.0	3	6.0	177	0.2	230	8.1
5291.0	3	9.0	131	0.0	245	8.2
5289.0	3	13.8	181	0.0	220	8.1
5287.0	3	3.7	129	0.0	220	8.2
5285.0	3	4.4	112	0.1	220	8.2
5283.0	3	1.5	220	0.1	220	8.1
5281.0	3	3.4	89	0.1	225	8.1
5279.0	3	5.0	99	0.1	230	8.1
5273.0	3	9.2	138	0.5	215	8.0
5270.0	3	7.7	15	0.6	205	8.0
5266.0	3	10.8	176	0.3	200	8.2
5264.0	3	5.6	309	0.2	205	8.2
5262.0	3	17.2	289	0.2	205	8.1
5259.0	3	4.9	25	0.2	210	8.2
5257.0	3	13.0	312	0.2	230	8.1
5254.0	3	14.1	252	0.3	235	8.2
5251.0	3	22.6	251	0.3	250	8.2
5249.0	3	20.2	234	0.3	240	8.2
5246.0	3	6.2	280	0.3	250	8.2
5244.0	3	12.5	224	0.3	255	8.2
5241.0	3	10.5	343	0.3	260	8.2
5239.0	3.	14.9	263	0.3	240	8.0
5236.0	3	6.1	243	0.3	250	8.0
5234.0	3	5.6	146	0.5	225	8.1
5231.0	3	3.7	145	0.6	225	8.2
5229.0	3	10.3	134	0.6	225	8.2
5227.0	3	4.7	242	0.6	220	8.2
5225.0	3	5.6	292	0.5	215	8.1
5223.0	3	5.7	351	0.6	210	8.1
5221.0	3	5.2	17	0.6	220	8.2

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5217.0	3	8.7	149	0.7	240	8.0
5214.0	3	11.5	176	0.6	260	7.9
5210.0	3	5.2	294	0.6	260	8.0
5207.0	3	8.5	212	0.5	215	8.1
5205.0	3	20.2	12	0.5	210	8.1
5203.0	3	22.0	6	0.6	215	8.2
5200.0	3	18.6	6	0.5	210	8.2
5197.0	3	21.6	359	0.5	200	8.1
5194.0	3	14.1	331	0.5	205	8.1
5191.0	3	13.0	324	0.3	205	8.2
5189.0	3	3.4	221	0.3	230	8.2
5187.0	3	22.8	336	0.3	230	8.2
5185.0	3	25.3	345	0.5	240	8.2
5183.0	3	23.3	349	0.5	240	8.1
5181.0	3	26.3	332	0.8	225	8.0
5179.0	3	24.0	340	0.7	225	8.0
5176.0	3	21.4	337	0.8	230	8.2
5174.0	3	26.9	5	0.8	220	8.0
5171.0	3	16.6	3	0.8	220	8.0
5169.0	3	16.4	3	0.9	210	8.2
5166.0	3	18.7	353	0.9	210	8.2
5164.0	3	17.7	355	0.9	210	8.2
5161.0	3	15.2	39	0.7	210	8.2
5159.0	3	6.1	31	0.5	205	8.1
5156.0	3	9.2	2	0.4	210	8.4
5153.0	3	12.4	302	0.5	215	7.9
5151.0	3	10.9	304	0.6	220	7.9
5149.0	3	5.2	144	0.8	220	7.9
5147.0	3	5.4	100	0.9	220	7.9
5144.0	3	2.8	113	0.9	205	7.9
5142.0	3	11.7	103	0.8	200	7.9
5140.0	3	11.2	110	0.8	200	8.0
5137.0	3	11.8	154	0.6	220	8.1
5133.0	3	5.3	99	0.7	230	7.9
5129.0	3	10.0	344	0.8	225	8.0
5127.0	3	3.8	171	0.8	215	7.8
5125.0	3	4.3	23	0.8	215	7.9
5123.0	3	5.3	330	0.9	210	7.8
5119.0	3	13.0	78	0.8	210	8.0
5117.0	3	5.0	127	0.8	195	7.9
5114.0	3	7.9	99	0.6	190	7.8
5110.0	3	8.4	221	0.5	200	7.8
5108.0	3	4.4	259	0.5	210	7.8
5104.0	3	2.0	28	0.5	220	8.1
5102.0	3	3.0	349	0.5	220	8.1
5098.0	3	6.6	335	0.5	230	8.0
5095.0	3	13.9	347	0.5	225	7.9
5093.0	3	14.2	1	0.5	230	8.0
5091.0	3	5.1	12	0.5	230	8.0
5089.0	3	4.3	59	0.5	235	8.0
5087.0	3	3.1	3	0.5	230	8.0
5084.0	3	4.9	209	0.3	225	8.0
5081.0	3	4.3	228	0.2	215	8.0
5079.0	3	6.9	334	0.2	210	8.0
5066.0	3	7.4	0	0.5	205	8.0
5063.0	3	8.4	79	0.5	205	8.0
5059.0	3	11.8	274	0.3	210	8.0
5057.0	3	6.4	77	0.3	220	8.0
5054.0	3	0.7	268	0.3	215	7.9
5049.0	3	19.0	17	0.2	250	8.0
5046.0	3	16.6	348	0.1	240	8.0
5044.0	3	13.1	356	0.2	230	8.0
5041.0	3	15.7	11	0.1	220	8.1
5039.0	3	10.8	51	0.2	200	8.3
5037.0	3	10.3	61	0.1	200	8.1
5034.0	3	3.1	164	0.2	195	8.0

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5031.0	3	14.0	161	0.2	200	7.9
5027.0	3	6.3	226	0.3	215	7.9
5024.0	3	5.7	230	0.3	230	8.0
5021.0	3	3.8	308	0.2	230	8.0
5018.0	3	17.4	351	0.2	210	7.9
5014.0	3	8.7	53	0.3	200	8.0
5012.0	3	6.7	129	0.3	200	7.9
5009.0	3	27.6	358	0.3	215	8.0
5005.0	3	11.0	14	0.2	225	8.0
5002.0	3	9.1	33	0.1	235	8.0
4999.0	3	2.9	50	0.0	240	8.2
4996.0	3	4.7	18	0.0	195	8.0
4993.0	3	8.8	37	0.1	195	7.9
4991.0	3	12.7	16	0.1	200	8.0
4988.0	3	9.7	24	0.1	200	7.9
4985.0	3	12.0	24	0.1	195	7.9
4983.0	3	14.0	31	0.0	200	8.0
4981.0	3	10.8	1	0.0	200	8.0
4979.0	3	13.1	26	0.0	195	8.0
4975.0	3	1.5	342	0.1	180	8.0
4973.0	3	12.7	100	0.0	175	8.0
4971.0	3	16.5	41	0.0	180	8.0
4969.0	3	14.5	21	0.0	180	8.0
4967.0	3	13.2	358	0.0	190	8.0
4965.0	3	2.9	242	0.0	205	8.0
4963.0	3	1.1	141	0.0	180	8.0
4960.0	3	6.1	12	0.0	170	8.0
4957.0	3	1.4	40	0.0	170	8.0
4954.0	3	8.5	224	0.0	180	8.0
4952.0	3	10.4	348	0.0	185	8.0
4950.0	3	18.6	29	0.0	200	8.0
4948.0	3	19.9	14	0.0	200	8.0
4946.0	3	3.8	56	0.0	205	8.0
4944.0	3	0.5	151	0.0	200	8.0
4941.0	3	5.4	31	0.0	180	8.0
4939.0	3	2.4	80	0.0	190	8.1
4936.0	3	7.3	82	0.0	185	8.1
4933.0	3	6.6	62	0.0	170	8.3
4930.0	3	6.2	40	0.0	195	8.7
4927.0	3	6.0	4	0.0	200	8.5
4924.0	3	4.2	260	0.0	200	8.3
4921.0	3	4.2	265	0.0	165	8.3
4919.0	3	2.3	334	0.0	160	8.3
4917.0	3	3.7	213	0.0	160	8.3
4914.0	3	6.8	208	0.0	145	8.2
4911.0	3	1.9	335	0.0	150	8.2
4909.0	3	2.8	132	0.0	160	8.2
4906.0	3	3.2	126	0.0	160	8.2
4904.0	3	4.0	269	0.0	165	8.2
4900.0	3	15.3	242	0.0	155	8.3
4897.0	3	3.7	323	0.0	130	8.3
4892.0	3	3.2	51	0.0	95	8.2
4890.0	3	6.1	138	0.0	95	8.2
4888.0	3	4.9	180	0.0	120	8.1
4886.0	3	2.8	297	0.0	125	8.1
4883.0	3	4.6	53	0.0	135	8.2
4881.0	3	3.1	22	0.3	155	8.0
4879.0	3	5.8	45	0.2	145	8.0
4876.0	3	9.3	246	0.1	140	8.0
4872.0	3	8.9	38	0.1	130	8.0
4869.0	3	10.7	63	0.1	140	8.1
4867.0	3	11.8	134	0.0	135	8.0
4864.0	3	9.4	346	0.0	145	8.1
4861.0	3	11.8	32	0.1	160	8.1
4858.0	3	0.5	71	0.1	170	8.0
4855.0	3	4.8	49	0.1	175	8.0

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4852.0	2	11.4	81	0.1	155	8.0
4849.0	3	1.6	8	0.2	150	8.0
4846.0	3	6.7	323	0.3	140	8.2
4843.0	3	2.6	325	0.3	135	8.7
4841.0	3	11.8	110	0.3	130	9.0
4828.0	3	3.8	26	0.3	110	8.1
4825.0	3	6.2	338	0.3	110	8.1
4823.0	3	15.8	22	0.2	120	8.2
4821.0	3	7.0	49	0.2	130	8.7
4819.0	3	1.4	7	0.1	130	8.7
4817.0	3	2.3	35	0.1	140	8.2
4815.0	3	11.1	42	0.2	155	8.2
4812.0	3	4.7	317	0.2	160	8.2
4810.0	3	3.5	80	0.2	170	8.2
4808.0	3	2.8	186	0.2	175	8.8
4806.0	3	2.1	268	0.2	175	8.9
4803.0	3	5.8	334	0.2	170	8.9
4801.0	3	3.9	7	0.3	170	9.0
4798.0	3	9.5	37	0.3	170	9.0
4795.0	3	11.8	196	0.2	175	9.0
4794.0	3	5.1	258	0.2	170	9.0
4792.0	3	6.6	169	0.2	170	9.0
4789.0	3	3.4	98	0.2	175	8.8
4787.0	3	2.5	285	0.2	160	9.3
4782.0	3	1.9	75	0.2	160	9.1
4779.0	2	0.7	15	0.2	170	8.6
4777.0	2	0.2	361	0.2	170	8.4
4774.0	2	0.6	337	0.2	175	8.5
4771.0	2	0.3	223	0.2	180	8.5
4769.0	2	2.3	284	0.1	180	8.5
4766.0	2	0.8	253	0.2	160	8.3
4763.0	2	0.1	351	0.1	160	8.3
4761.0	2	2.9	282	0.1	170	8.4
4759.0	3	1.9	330	0.1	190	8.6
4756.0	3	1.4	22	0.1	190	8.5
4753.0	3	12.6	343	0.1	180	8.5
4751.0	3	1.4	68	0.1	175	8.6
4749.0	3	3.5	121	0.0	180	8.7
4745.0	3	3.7	155	0.0	170	8.5
4743.0	2	0.4	277	0.1	185	8.6
4741.0	2	3.0	273	0.1	200	8.5
4739.0	3	0.1	401	0.1	210	8.6
4736.0	3	0.2	411	0.2	220	8.5
4734.0	3	1.9	333	0.2	210	8.5
4731.0	3	1.3	326	0.1	210	8.5
4728.0	3	2.5	278	0.1	200	8.5
4725.0	3	0.5	31	0.0	180	8.4
4722.0	3	1.8	35	0.0	160	8.6
4719.0	3	2.7	188	0.1	155	8.5
4717.0	3	1.3	113	0.1	165	8.6
4715.0	3	3.8	119	0.2	175	8.8
4713.0	3	12.3	227	0.2	190	9.0
4711.0	3	15.1	56	0.2	195	9.0
4709.0	3	6.3	64	0.2	190	8.9
4706.0	3	6.7	51	0.2	200	8.2
4704.0	3	8.3	41	0.1	200	8.0
4701.0	3	1.1	356	0.0	205	8.0
4699.0	3	7.3	42	0.0	200	7.9
4694.0	3	8.8	115	0.0	200	8.0
4692.0	3	10.1	133	0.0	200	8.0
4690.0	3	6.1	113	0.0	195	8.0
4687.0	3	6.6	39	0.0	195	8.0
4685.0	3	2.0	36	0.0	195	8.7
4683.0	3	3.4	191	0.0	190	8.9
4681.0	3	6.7	250	0.0	175	9.0
4678.0	3	4.9	51	0.0	160	9.0

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4674.0	3	1.7	315	0.0	120	9.0
4671.0	3	2.1	246	0.0	75	8.2
4669.0	3	4.4	354	0.0	45	8.1
4665.0	3	7.1	4	0.0	160	8.0
4657.0	3	9.9	66	0.0	160	8.0
4653.0	3	4.4	116	0.0	75	8.0
4651.0	3	1.1	236	0.0	75	8.0
4649.0	3	1.9	146	0.0	75	7.9
4647.0	3	12.4	156	0.0	80	7.9
4644.0	3	6.1	49	0.0	115	8.2
4641.0	3	5.2	344	0.0	110	8.0
4637.0	3	6.7	240	0.0	120	8.0
4631.0	3	6.0	77	0.0	135	7.9
4629.0	3	9.7	81	0.2	135	8.0
4626.0	3	7.2	8	0.2	140	8.0
4623.0	3	4.3	227	0.1	145	8.0
4621.0	3	3.6	338	0.0	145	7.9
4615.0	3	6.6	211	0.0	180	8.0
4613.0	3	3.0	62	0.0	160	8.0
4606.0	3	3.3	329	0.3	130	8.0
4601.0	3	2.3	177	0.3	120	8.0
4599.0	3	1.7	330	0.3	130	8.0
4597.0	3	1.3	307	0.3	140	8.0
4595.0	3	1.9	303	0.3	120	8.0
4593.0	3	8.9	175	0.4	105	8.0
4589.0	3	12.1	351	0.5	110	8.0
4587.0	3	18.2	165	0.3	120	8.0
4581.0	3	3.0	104	0.3	175	8.0
4577.0	3	9.5	186	0.3	150	8.0
4575.0	3	3.3	220	0.3	140	8.0
4571.0	3	5.1	93	0.4	130	8.0
4567.0	3	2.2	11	0.3	155	8.0
4561.0	3	9.7	23	0.1	165	8.0
4559.0	3	1.6	68	0.1	175	8.0
4555.0	3	2.3	320	0.2	185	8.0
4554.0	3	5.1	21	0.2	190	8.0
4552.0	3	2.4	20	0.2	180	8.0
4549.0	3	3.3	38	0.3	185	7.9
4541.0	3	7.4	191	0.1	185	8.0
4538.0	3	4.7	140	0.1	190	7.9
4534.0	3	4.3	342	0.0	200	8.0
4527.0	3	4.4	321	0.0	220	8.0
4526.0	3	1.0	331	0.0	235	8.5
4524.0	3	4.3	341	0.0	270	8.1
4518.0	3	5.6	29	0.0	215	8.9
4515.0	3	6.8	355	0.0	190	8.0
4513.0	3	2.3	70	0.1	180	8.7
4512.0	3	5.8	357	0.1	175	8.8
4509.0	3	8.8	353	0.1	175	8.7
4507.0	3	5.4	57	0.0	170	8.8
4504.0	3	1.5	316	0.0	175	8.5
4501.0	3	10.1	33	0.0	190	8.0
4499.0	3	7.5	321	0.0	130	8.0
4496.0	3	3.8	329	0.0	120	8.0
4492.0	3	7.0	53	0.1	90	8.7
4489.0	3	0.0	231	0.0	40	8.1
4487.0	3	19.8	322	0.0	40	8.0
4484.0	3	3.9	165	0.0	50	8.0
4478.0	3	9.6	304	0.0	140	7.9
4469.0	3	3.1	321	0.2	140	8.0
4463.0	3	0.7	3	0.2	150	8.0
4459.0	3	3.8	56	0.2	140	8.0
4458.0	3	7.2	137	0.2	140	8.0
4456.0	3	2.0	341	0.2	110	8.3
4448.0	3	14.1	62	0.2	120	8.0
4447.0	3	0.3	176	0.2	120	8.2

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4443.0	3	0.1	321	0.1	130	8.0
4433.0	3	9.4	218	0.1	140	8.0
4429.0	3	1.6	326	0.2	145	8.0
4426.0	3	7.3	339	0.2	150	8.0
4422.0	3.	16.2	248	0.2	150	8.2
4417.0	3	2.6	333	0.1	160	8.0
4411.0	3	30.3	190	0.2	170	8.0
4409.0	3	5.9	75	0.2	160	8.0
4403.0	3	8.6	228	0.3	155	8.0
4395.0	3	7.5	146	0.3	180	8.5
4392.0	3.	5.8	34	0.3	165	8.0
4389.0	3	16.0	9	0.2	150	8.0
4385.0	3	0.1	361	0.1	170	8.0
4381.0	3	27.4	287	0.0	215	8.0
4377.0	3	5.6	221	0.1	220	8.0
4374.0	3	26.0	357	0.2	220	8.0
4371.0	3	4.6	20	0.2	210	8.0
4367.0	3	2.4	0	0.1	195	8.0
4361.0	3	11.3	63	0.0	150	8.0
4357.0	3	3.9	38	0.1	160	8.0
4353.0	3	1.9	341	0.0	180	8.0
4351.0	3	8.2	318	0.0	190	8.0
4346.0	3	0.5	196	0.0	135	8.0
4343.0	3	7.9	171	0.0	190	8.1
4341.0	3	7.3	214	0.0	190	9.0
4336.0	3	6.5	16	0.0	200	9.0
4333.0	3	3.9	236	0.0	175	9.0
4329.0	3	1.9	162	0.0	185	8.0
4327.0	3	2.9	320	0.0	190	8.0
4319.0	3	4.5	13	0.0	210	8.0
4316.0	3	12.7	277	0.0	220	8.0
4308.0	3	3.9	285	0.0	130	8.0
4305.0	3	2.5	121	0.0	130	9.1
4301.0	3	2.4	331	0.0	150	9.1
4299.0	3	1.0	332	0.1	150	9.0
4296.0	3	11.7	51	0.2	140	8.5
4295.0	3	0.6	25	0.3	145	8.6
4290.0	3	3.7	323	0.3	140	8.9
4286.0	3	17.3	205	0.3	160	9.0
4283.0	3	7.5	260	0.3	160	9.0
4279.0	3	7.6	273	0.3	160	8.7
4276.0	3	9.5	268	0.3	165	8.7
4275.0	3	1.2	92	0.3	165	8.7
4272.0	3	0.2	331	0.2	140	7.9
4268.0	3	2.9	141	0.1	150	8.0
4265.0	3	7.5	135	0.1	160	8.0
4261.0	3	9.0	294	0.1	160	8.0
4252.0	3	3.0	65	0.3	180	8.0
4250.0	3	3.5	147	0.3	170	8.1
4248.0	3	1.8	253	0.3	170	8.2
4245.0	3	11.0	218	0.3	170	9.5
4243.0	3	8.0	68	0.3	180	9.3
4240.0	3	19.9	346	0.2	150	8.2
4239.0	3	10.8	355	0.2	150	8.2
4235.0	3	15.3	29	0.2	165	8.2
4233.0	3	7.9	47	0.3	170	8.3
4225.0	3	8.6	223	0.3	150	8.0
4217.0	3	10.6	158	0.2	165	8.0
4213.0	3	8.8	198	0.3	170	8.0
4205.0	3	5.6	86	0.5	170	8.1
4203.0	3	5.2	46	0.5	165	8.1
4193.0	3	3.2	243	0.4	160	8.0
4186.0	3	4.2	261	0.5	175	8.0
4185.0	3	2.4	197	0.5	175	8.0
4179.0	3	3.5	57	0.6	165	8.0
4177.0	3	2.6	3	0.5	160	8.0

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4171.0	3	5.2	297	0.3	185	8.0
4168.0	3	8.4	339	0.3	200	8.0
4166.0	3	3.6	72	0.3	200	8.0
4164.0	3	2.6	61	0.3	200	8.0
4157.0	3	3.3	225	0.3	190	8.0
4155.0	3	2.1	356	0.2	180	8.0
4150.0	3	7.0	275	0.2	195	8.0
4147.0	3	3.7	43	0.3	190	8.0
4143.0	3	5.4	350	0.3	190	8.0
4137.0	3	0.9	31	0.4	200	8.0
4135.0	3	3.9	113	0.3	205	8.0
4130.0	3	4.2	104	0.3	200	8.0
4124.0	3	6.5	1	0.0	200	8.0
4121.0	3	17.1	181	0.0	200	8.0
4115.0	3	7.3	25	0.1	200	8.0
4111.0	3	3.5	8	0.2	210	8.0
4108.0	3	5.4	274	0.3	195	8.0
4106.0	3	4.8	69	0.2	190	8.0
4103.0	3	9.9	51	0.1	205	8.0
4101.0	3	18.5	56	0.0	205	8.3
4099.0	3	2.9	15	0.0	215	8.0
4093.0	3	5.7	356	0.0	200	8.0
4091.0	3	19.1	16	0.0	210	8.0
4086.0	3	4.1	75	0.0	210	9.2
4080.0	3	4.2	234	0.0	180	9.0
4077.0	3	4.8	111	0.0	195	9.0
4075.0	3	4.7	221	0.1	195	9.2
4072.0	3	10.2	4	0.2	180	8.5
4065.0	3	3.7	359	0.3	160	8.0
4060.0	3	1.2	184	0.2	160	8.0
4054.0	3	0.4	244	0.3	150	8.1
4047.0	3	11.5	351	0.3	170	8.1
4044.0	3	4.6	270	0.5	180	8.1
4023.0	3	1.9	96	0.5	170	9.7
4021.0	3	3.1	87	0.6	175	10.0
4019.0	3	4.5	178	0.6	190	9.0
4014.0	3	3.8	134	0.7	180	8.1
4011.0	3	2.7	72	0.6	195	8.1
4008.0	3	3.0	216	0.4	195	8.1
4002.0	3	5.5	276	0.5	200	8.0
3998.0	3	13.1	236	0.5	190	8.0
3992.0	3	0.5	361	0.5	170	8.0
3988.0	3	29.2	75	0.5	185	8.1
3979.0	3	15.1	251	0.5	200	8.0
3977.0	3	2.6	279	0.4	190	7.9
3971.0	3	8.2	252	0.2	190	8.1
3969.0	3	11.3	267	0.1	195	8.1
3968.0	3	6.2	304	0.1	195	8.1
3964.0	3	8.1	112	0.1	205	8.1
3957.0	3	7.7	340	0.2	170	8.1
3949.0	3	10.2	54	0.5	210	8.5
3946.0	3	6.4	45	0.3	210	9.0
3944.0	3	13.9	32	0.5	230	8.3
3938.0	3	4.8	9	0.1	220	8.2
3936.0	3	5.7	1	0.1	215	8.1
3932.0	3	4.7	328	0.0	160	8.2
3927.0	3	1.6	211	0.0	170	8.0
3923.0	3	13.0	36	0.2	180	8.1
3920.0	3	8.9	198	0.3	175	8.2
3916.0	3	4.5	62	0.5	170	9.0
3914.0	3	3.5	60	0.5	140	9.2
3912.0	3	3.3	86	0.3	160	9.0
3910.0	3	6.3	43	0.3	165	8.8
3907.0	3	4.3	105	0.4	170	9.0
3903.0	3	2.2	246	0.6	190	9.0
3900.0	3	29.7	138	0.5	170	8.7

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3895.0	3	7.8	140	0.3	150	8.1
3886.0	3	6.4	335	0.5	180	8.1
3883.0	3	4.0	144	0.5	180	8.1
3881.0	3	3.6	46	0.5	180	8.1
3877.0	3	14.9	263	0.6	175	8.2
3873.0	3	7.7	107	0.8	175	8.0
3871.0	3	5.9	118	0.8	180	8.1
3861.0	3	6.8	23	0.5	180	8.2
3859.0	3	1.0	11	0.5	180	8.3
3855.0	3	1.3	148	0.6	160	8.3
3852.0	3	3.9	43	0.8	170	8.0
3849.0	3	3.2	4	0.8	170	8.0
3846.0	3	6.2	307	0.8	170	8.0
3843.0	3	4.9	360	0.8	180	8.0
3838.0	3	4.5	191	0.8	180	8.2
3834.0	3	4.4	48	0.8	165	8.7
3832.0	3	2.0	280	0.7	170	8.4
3829.0	3	9.5	41	0.8	180	8.1
3827.0	3	14.4	32	0.8	190	8.0
3825.0	3	4.8	342	0.9	190	8.0
3821.0	3	1.6	293	1.0	190	8.0
3817.0	3	6.3	263	0.8	190	8.0
3811.0	3	1.3	57	0.8	185	8.0
3800.0	3	3.7	106	0.3	185	8.0
3797.0	3	8.3	260	0.3	170	8.0
3794.0	3	4.1	4	0.3	185	8.0
3789.0	3	6.7	274	0.5	185	8.0
3785.0	3	5.6	121	0.5	170	8.0
3781.0	3	8.3	265	0.2	180	8.0
3777.0	3	9.3	238	0.2	210	8.0
3773.0	3	1.1	245	0.3	210	8.0
3769.0	3	1.0	100	0.3	185	8.0
3762.0	3	4.4	152	0.3	120	8.0
3752.0	3	23.7	78	0.2	190	8.0
3751.0	3	8.0	89	0.2	165	8.0
3747.0	3	6.5	339	0.3	150	8.0
3743.0	3	22.8	287	0.5	170	8.0
3738.0	3	7.9	131	0.3	180	8.0
3735.0	3	5.0	277	0.2	155	8.1
3731.0	3	2.1	316	0.2	200	8.2
3726.0	3	3.2	92	0.3	160	8.3
3721.0	3	3.9	114	0.5	165	8.2
3719.0	3	3.4	94	0.3	170	8.2
3714.0	3	2.1	93	0.3	180	8.1
3711.0	3	4.9	230	0.4	160	8.2
3710.0	3	4.8	132	0.4	150	8.1
3707.0	3	4.5	316	0.3	150	8.1
3702.0	3	0.4	253	0.1	150	8.8
3699.0	3	7.6	294	0.1	185	9.0
3692.0	3	0.3	391	0.3	200	9.0
3690.0	3	5.1	339	0.3	200	9.0
3687.0	3	1.7	115	0.3	205	9.3
3685.0	3	2.0	182	0.5	220	9.2
3683.0	3	0.5	366	0.5	175	9.1
3681.0	3	6.3	239	0.4	170	9.3
3679.0	3	1.8	317	0.4	180	9.4
3676.0	3	9.6	239	0.3	185	9.0
3674.0	3	7.7	262	0.3	185	9.3
3671.0	3	4.7	191	0.3	200	8.5
3669.0	3	8.5	263	0.3	190	8.7
3666.0	3	2.2	281	0.2	220	8.0
3661.0	3	5.9	135	0.0	200	8.0
3659.0	3	4.7	218	0.0	180	8.0
3656.0	3	4.6	360	0.2	185	8.0
3652.0	3	6.8	333	0.2	180	8.0
3649.0	3	0.2	381	0.2	190	8.0

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3645.0	3	4.5	0	0.3	215	8.0
3641.0	3	15.2	132	0.3	215	8.0
3638.0	3	13.9	343	0.2	190	8.0
3635.0	3	2.9	137	0.0	180	8.0
3631.0	3	2.5	292	0.0	180	8.0
3628.0	3	3.0	247	0.0	190	9.0
3625.0	3	6.8	171	0.1	180	8.8
3622.0	3	3.6	195	0.2	190	9.0
3619.0	3	1.6	251	0.2	190	10.0
3616.0	3	5.0	119	0.2	205	9.3
3613.0	3	1.9	125	0.2	210	9.3
3611.0	3	4.6	115	0.1	205	9.3
3609.0	3	15.2	73	0.0	220	8.3
3606.0	3	6.3	358	0.0	170	8.0
3603.0	3	6.0	40	0.1	150	8.0
3600.0	3	6.7	316	0.2	140	8.1
3597.0	3	2.9	16	0.0	155	9.1
3595.0	3	8.8	22	0.0	170	9.2
3594.0	3	5.4	19	0.0	170	9.2
3591.0	3	2.9	92	0.0	155	8.3
3588.0	3	13.5	80	0.0	150	8.0
3585.0	3	12.2	83	0.0	95	8.0
3581.0	3	3.8	23	0.0	140	8.0
3577.0	3	8.5	16	0.0	195	8.0
3574.0	3	4.2	345	0.0	200	8.0
3571.0	3	4.1	318	0.0	170	8.0
3569.0	3	1.4	52	0.0	150	8.0
3567.0	3	7.4	60	0.2	155	8.0
3563.0	3	0.4	134	0.1	135	8.0
3560.0	3	3.9	337	0.1	135	8.0
3557.0	3	4.8	339	0.1	110	8.0
3554.0	3	11.4	21	0.0	115	8.0
3553.0	3	4.6	322	0.0	115	8.0
3551.0	3	3.8	283	0.0	160	8.0
3547.0	3	2.0	7	0.1	180	8.0
3545.0	3	6.2	294	0.1	160	8.0
3539.0	3	17.9	89	0.2	110	8.1
3535.0	3	1.7	223	0.1	115	9.0
3533.0	3	5.2	341	0.1	130	8.2
3524.0	3	1.9	90	0.1	125	8.0
3517.0	3	5.5	30	0.2	145	8.5
3511.0	3	5.0	28	0.4	150	8.0
3509.0	3	0.5	341	0.5	150	8.0
3505.0	3	0.5	341	0.5	150	8.0
3500.0	3	9.7	251	0.4	115	8.0
3497.0	3	3.8	225	0.3	120	8.0
3490.0	3	5.5	99	0.3	140	8.0
3487.0	3	10.7	302	0.5	150	8.1
3484.0	3	1.8	216	0.5	155	8.0
3481.0	3	5.9	285	0.5	155	8.1
3476.0	3	3.8	252	0.5	150	8.1
3471.0	3	3.2	336	0.3	145	9.2
3468.0	3	5.1	343	0.4	165	9.0
3465.0	2	5.7	286	0.5	160	8.2
3461.0	3	6.3	324	0.5	170	8.1
3459.0	3	4.5	3	0.5	175	8.4
3458.0	3	6.0	351	0.4	170	8.2
3455.0	3	4.3	237	0.5	170	8.7
3452.0	3	0.5	356	0.5	165	8.7
3448.0	3	4.6	301	0.5	155	8.1
3445.0	3	5.7	274	0.3	155	8.1
3442.0	3	9.6	299	0.2	165	8.1
3439.0	3	14.0	31	0.2	175	8.1
3437.0	3	14.3	62	0.3	185	8.0
3435.0	3	8.4	81	0.3	155	8.0
3431.0	3	3.1	315	0.3	150	8.0

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3428.0	3	3.1	301	0.2	120	8.0
3426.0	3	6.5	294	0.1	115	8.0
3423.0	3	6.5	291	0.0	125	8.0
3417.0	3	2.7	245	0.2	145	8.0
3414.0	3	5.8	277	0.2	155	8.0
3411.0	3	2.0	26	0.1	180	8.0
3409.0	3	13.5	169	0.1	170	8.0
3405.0	3	5.0	7	0.0	145	8.0
3402.0	3	2.4	98	0.0	150	8.0
3399.0	3	1.8	98	0.1	160	8.0
3393.0	3	3.1	43	0.5	160	8.0
3385.0	3	9.3	34	0.5	120	8.0
3382.0	3	1.2	184	0.3	125	8.0
3379.0	3	3.0	218	0.3	120	8.0
3375.0	3	6.8	310	0.2	130	8.0
3370.0	3	4.1	158	0.2	130	8.0
3367.0	3	3.5	79	0.3	145	8.0
3364.0	3	12.3	35	0.4	150	8.0
3361.0	3	12.2	197	0.5	150	8.0
3356.0	3	18.7	151	0.4	150	8.0
3351.0	3	9.4	308	0.4	125	8.0
3348.0	3	17.1	62	0.5	130	8.1
3345.0	3	13.9	355	0.5	130	8.0
3342.0	3	11.7	139	0.4	140	8.1
3339.0	3	21.1	150	0.3	140	8.3
3335.0	3	7.9	54	0.3	120	8.2
3332.0	3	10.2	115	0.4	125	8.2
3325.0	3	10.6	81	0.4	130	9.8
3322.0	3	9.7	74	0.4	140	8.5
3319.0	3	9.0	95	0.5	125	9.3
3317.0	3	8.1	56	0.5	120	9.2
3315.0	3	1.9	312	0.5	125	9.3
3313.0	3	11.1	79	0.5	130	9.2
3310.0	3	5.3	211	0.5	130	8.7
3307.0	3	3.0	279	0.3	125	8.8
3305.0	3	3.7	310	0.3	130	9.0
3302.0	3	3.5	231	0.4	135	9.7
3300.0	3	1.1	245	0.4	135	10.0
3298.0	3	10.1	336	0.4	135	10.3
3295.0	3	18.3	10	0.4	120	9.4
3292.0	3	2.1	142	0.4	125	8.8
3288.0	3	7.7	72	0.4	125	8.9
3285.0	3	0.6	355	0.3	120	9.5
3282.0	3	2.1	185	0.3	150	9.7
3279.0	3	3.0	171	0.3	135	9.2
3276.0	3	6.3	55	0.3	120	8.9
3273.0	3	14.8	54	0.3	110	9.0
3271.0	3	11.8	352	0.3	100	9.0
3266.0	3	6.5	169	0.3	110	9.0
3264.0	3	12.5	202	0.3	120	10.3
3260.0	3	4.5	166	0.3	115	10.5
3257.0	3	5.3	287	0.3	115	10.5
3255.0	3	3.9	72	0.3	120	10.3
3252.0	3	2.9	300	0.4	135	10.2
3249.0	3	8.1	154	0.4	140	10.0
3243.0	3	8.5	259	0.2	105	8.5
3240.0	3	5.5	127	0.2	100	8.4
3239.0	3	2.6	46	0.3	100	8.5
3236.0	3	2.6	123	0.3	100	8.3
3235.0	3	1.3	145	0.3	110	8.3
3230.0	3	4.8	110	0.2	115	9.0
3226.0	3	8.9	78	0.2	70	10.4
3224.0	3	4.7	136	0.2	110	10.3
3220.0	3	7.5	155	0.3	125	10.5
3215.0	3	1.4	101	0.3	115	9.3
3213.0	3	1.8	305	0.0	110	8.8

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3211.0	3	1.8	310	0.2	110	9.3
3208.0	3	1.2	97	0.2	115	9.2
3205.0	3	4.1	246	0.2	120	8.8
3202.0	3	7.9	235	0.1	110	8.6
3200.0	3	8.6	282	0.0	100	8.5
3198.0	3	6.4	252	0.0	100	8.4
3195.0	3	10.3	233	0.0	110	8.3
3193.0	3	8.1	285	0.0	120	8.4
3189.0	3	9.3	206	0.0	100	9.0
3186.0	3	3.3	227	0.0	80	10.4
3183.0	3	3.4	211	0.0	50	11.5
3179.0	3	8.2	94	0.0	60	12.0
3174.0	3	5.4	316	0.0	80	12.0
3171.0	3	5.8	208	0.0	80	11.3
3165.0	3	1.5	192	0.0	65	10.2
3163.0	3	3.6	319	0.0	50	9.9
3162.0	3	2.4	311	0.0	50	9.3
3159.0	3	10.3	265	0.0	15	8.4
3154.0	3	11.1	268	0.0	5	8.8
3152.0	3	1.7	255	0.0	30	8.9
3150.0	3	8.0	283	0.0	60	9.0
3148.0	3	6.9	293	0.0	40	9.0
3145.0	3	3.5	299	0.0	20	8.6
3141.0	3	2.5	261	0.0	20	8.8
3138.0	3	8.4	344	0.0	35	9.2
3135.0	3	2.8	274	0.0	35	10.1
3132.0	3	4.6	22	0.0	20	10.0
3128.0	3	6.8	215	0.0	10	10.0
3123.0	3	6.2	41	0.0	30	9.8
3120.0	3	7.1	38	0.2	20	9.3
3117.0	3	6.1	70	0.2	25	9.0
3113.0	3	4.9	127	0.3	25	10.1
3111.0	3	7.0	348	0.3	25	10.1
3107.0	3	5.0	5	0.3	25	10.0
3104.0	3	5.7	22	0.4	30	10.2
3101.0	3	5.6	285	0.4	45	10.7
3099.0	3	1.9	230	0.4	50	10.0
3095.0	3	7.8	29	0.3	20	9.8
3090.0	3	4.1	60	0.3	30	8.8
3087.0	3	5.3	44	0.3	30	8.9
3079.0	3	11.3	108	0.3	30	8.5
3077.0	3	6.8	107	0.2	40	8.5
3072.0	3	11.1	133	0.1	45	8.5
3065.0	3	12.9	160	0.3	35	8.6
3060.0	3	16.5	83	0.2	45	8.6
3058.0	3	11.1	95	0.2	40	8.7
3053.0	3	13.2	131	0.3	50	8.9
3050.0	3	17.0	11	0.3	40	8.7
3047.0	3	11.6	57	0.2	35	8.7
3045.0	3	7.2	76	0.2	35	8.7
3043.0	3	10.0	69	0.2	35	8.7
3041.0	3	9.7	64	0.3	40	8.7
3038.0	3	5.1	294	0.2	55	8.8
3036.0	3	5.4	37	0.3	55	8.7
3034.0	3	7.9	160	0.3	55	8.7
3025.0	3	2.0	25	0.3	50	8.5
3021.0	3	3.8	286	0.3	55	8.5
3015.0	3	5.1	349	0.2	60	8.8
3007.0	3	2.4	306	0.2	65	8.3
3000.0	3	3.7	24	0.3	70	8.5
2995.0	3	10.8	163	0.0	85	8.7
2987.0	3	0.4	291	0.0	60	11.0
2984.0	3	1.2	193	0.1	20	11.8
2982.0	3	3.3	111	0.1	35	12.5
2979.0	3	1.0	166	0.2	0	13.3
2976.0	3	3.8	143	0.1	340	13.2

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2974.0	3	2.2	243	0.2	0	13.0
2971.0	3	0.2	211	0.2	20	13.0
2969.0	3	4.4	183	0.2	35	12.3
2963.0	3	0.4	165	0.3	30	12.3
2960.0	3	5.6	303	0.2	25	12.6
2955.0	3	6.2	319	0.2	20	11.9
2952.0	3	0.7	81	0.0	40	11.6
2949.0	3	1.2	351	0.0	35	12.2
2939.0	2	5.7	258	0.0	5	11.9
2937.0	3	5.6	236	0.9	10	11.9
2934.0	3	0.6	291	0.0	20	11.4
2930.0	2	0.0	201	0.0	10	10.3
2927.0	3	2.2	10	0.0	10	9.1
2925.0	3	4.4	20	0.0	20	9.0
2921.0	3	4.3	62	0.2	25	8.7
2913.0	3	1.9	36	0.3	10	8.7
2908.0	3	6.9	77	0.2	35	9.3
2905.0	3	6.4	63	0.2	55	9.2
2903.0	3	4.0	128	0.3	50	9.3
2899.0	3	11.3	148	0.3	50	9.3
2896.0	3	5.1	22	0.3	50	9.2
2890.0	3	13.3	74	0.3	45	9.0
2885.0	3	7.1	61	0.2	60	9.0
2881.0	3	9.5	66	0.3	55	8.9
2878.0	3	7.5	137	0.4	30	9.0
2875.0	3	8.2	118	0.4	25	9.6
2872.0	3	6.4	32	0.4	55	9.5
2869.0	3	9.1	21	0.3	55	9.1
2864.0	3	9.8	90	0.3	50	8.6
2861.0	3	7.0	90	0.3	25	8.5
2857.0	3	4.2	203	0.3	40	8.0
2851.0	3	5.8	81	0.5	50	9.7
2847.0	3	4.3	101	0.5	50	10.0
2844.0	3	2.4	134	0.4	45	9.7
2841.0	3	3.3	154	0.4	50	10.3
2837.0	3	2.9	113	0.3	55	9.8
2833.0	3	6.5	155	0.4	65	9.8
2831.0	3	5.6	125	0.4	60	9.8
2829.0	3	3.7	135	0.4	50	9.4
2826.0	3	1.6	57	0.4	50	9.2
2823.0	3	2.7	263	0.4	55	9.2
2818.0	3	4.0	93	0.4	60	9.0
2812.0	2	1.3	311	0.3	65	9.4
2807.0	3	2.4	215	0.4	65	9.0
2805.0	3	3.5	226	0.3	65	8.8
2801.0	3	3.5	337	0.3	70	9.0
2795.0	3	0.3	256	0.3	65	9.0
2792.0	3	3.2	83	0.3	65	8.6
2787.0	3	2.6	115	0.3	65	9.0
2779.0	3	3.2	217	0.3	70	10.0
2777.0	3	6.4	136	0.2	70	9.0
2774.0	3	2.3	70	0.2	80	9.2
2771.0	3	2.6	238	0.2	80	9.2
2767.0	3	3.9	270	0.1	90	10.5
2763.0	3	2.2	278	0.2	70	9.9
2757.0	3	7.2	225	0.1	10	9.8
2755.0	3	4.3	242	0.1	65	10.9
2752.0	3	3.8	299	0.0	55	10.2
2747.0	3	1.7	281	0.0	50	9.8
2744.0	3	2.0	275	0.0	45	9.9
2741.0	3	1.3	120	0.1	35	9.8
2737.0	3	4.1	301	0.1	20	11.1
2734.0	3	3.9	334	0.2	15	10.8
2727.0	2	1.8	347	0.2	20	13.3
2720.0	3	5.1	357	0.3	25	13.3
2719.0	3	2.9	329	0.3	20	13.5
2716.0	3	4.9	167	0.3	20	14.0
2713.0	3	2.0	321	0.2	15	14.0
2705.0	3	6.0	324	0.3	20	11.8
2702.0	3	4.2	353	0.3	25	10.8
2692.0	3	3.5	4	0.3	40	9.2
2686.0	3	4.8	211	0.0	0	9.3
2681.0	3	1.0	274	0.5	0	10.5

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WELL SITE REPORT

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 021

Company: ^{oil} WOODSLIDE (MRL) N.L.

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
330-				
360	100	MRL, MED GY, SOFT - <u>SOFT</u> , TEX. HET, QZ PROS, F-M, (SRT), RND. FOSS: PELCP, GAST, FORAM (BENTH.), LIG. INTBDS SLT MED-GY, SOFT, F-M.	MOD.	
370	80	MRL MED GY-BRN, SOFT, TEX HET, QZ PROS, F-M, SRT, ANG, POOR STRAT. FOSS LIGNITIC.	LOW	
	15	COQ, FOSS: PELCP, FORAM, <u>DENTALIUM</u> ,		
	5	MRL A/A, S, QZ, M.		
380-				
380	100	MRL LT-M BRN, SOFT, TEX HET SRT (SRT) S + GRV, RND. FOSS: PELCP, FORAM, <u>DENTALIUM</u> , LIG.	MOD.	
390-				
390	100	MRL, LT GY, SOFT, TEX HET (SRT), SUBANG, (STRAT), FOSS: PELCP, FORAM (BENTH.), BRY <u>DENTALIUM</u>		
400-				
400	90	MRL PKST MRL LT GY SOFT TEX HET F-M (SRT), ANG-SUB ANG (STRAT), FOSS: PELCP FORAM (BENTH.), BRY <u>DENTALIUM</u> , G.L.C.	MOD	
	10	MRL MED GY SOFT TEX HOM F (SRT) ANG	MOD	
410		A/A		
420	95	PKST SRT LT GRY-BRN SOFT TEX HET F-M (SRT) ANG. (STRAT). FOSS: PELCP, GAST, BRY <u>DENTALIUM</u> . G.L.C.	POR	
	5	SLTST, GY, SOFT, TEX HOM F-M SRT ANG,		
430		AS ABOVE.		
440	85	PKST AS ABOVE.		
	10	SLTST AS ABOVE		
	5	S + S-MRL BRN BRN BRT TEX HET M (SRT) ANG.		
460		AS ABOVE.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 022 #

Company: WOODSIDE

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
470	100	PKST AS ABOVE.	POR	
480	100	PKST AS ABOVE	POR	
490	100	COQ LT & BRN, LSF TEX HET MED-CRS, (SRT). FOSS: BRY, DENTALIUM, PELCP GAST FORAM (BENTH). GLC.	POR	
500	100	PKST LT BRN SOFT-BRIT TEX HET F-M (SRT) ANG. FOSS: BRY PELCP DENTALIUM FORAM GLC	POR	
510		AS ABOVE	POR	
520		AS ABOVE.		
530		AS ABOVE WITH ECHINODERM PLATES AND SPINES.		
540	100	PKST LT BRN SOFT-BRIT TEX HET M-CRS (SRT) ANG. FOSS: BRY (BRANCHING + ENCRUSTING) PELCP FORAM (BENTH + PELAGIC)	POR	
550	100	COQ, LT BRN M-CRS (SRT) ANG. FOSS: BRY, FORAM (PELAGIC) ECH, PELCP.	POR	
560	50	PKST GRST LT BRN SOFT-BRIT TEX HET M-CRS (SRT) ANG FOSS: BRY BRACHIOPODS PELCP FORAM, ECH.	POR	
	50	COQ LT BRN M-CRS (SRT) ANG. FOSS: ECH PELCP,		
570	20	PKST GRST AS ABOVE		
	80	COQ AS ABOVE		
580	100	COQ V. LT BRN TEX HET M-CRS (SRT) ANG FOSS: BRY FORAM ECH PELCP.	POR	
590	100	COQ AS ABOVE.	POR	
600	60	PKST AS ABOVE	POR	
	40	COQ AS ABOVE.		
610		AS ABOVE.	POR	
620	100	COQ, LT BRN TEX HET M-CRS (SRT) ANG FOSS: BRY, ECH PELCP FORAM.	POR	

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: **WOODSIDE NL**

Well: **SALT LAKE** 913534 023
#1

Depth Interval	%	Lithologic Description	Porosity	Remarks
630	100	PKST, LT BRN SOFT TEX HOM M-CRS ANG FOSS: BRY FORAM	POR	
640	50	PKST AS ABOVE	POR	
	50	COQ FOSS: BRY PELECP FORAM		
650		PKST LT BRN SOFT TEX HOM M-CRS ANG FOSS: BRY es PELECP FORAM IECH LIGNITIC FRAGMENTS.	POR	
660		AS ABOVE	POR	
670		AS ABOVE	POR	
680		PKST AS ABOVE WITH CAVINGS OF FOSSILS?	POR	
690		AS ABOVE.		
690-700	40 100	Sandstone, grey to pale grey, med-fine grd., comprising clear to pale grey ^{1/2} subrnd. to subangular, poorly sorted, good porosity. Abundant fossil fragments comprising Pelecypods, Bryozoans and forams.		
	60			
700-710	30	Sandstone, as above, poorly consolidated with detrital gypsiferous fragments and minor ^{brn} limst. frags. Occ. brown clays. The sandstone components have some lithic inclusions		
	70			
710-720	20	Sandstone as above with reddish brown clays. Fossils - strongly fossiliferous with abundant corals and gastropods and foraminiferal remains.		
	80			
720-730	20	Sandstone - as above, impregnated with fine reddish brown clay Fossil fragments - as above. Tr. Dark reddish or reddish brn. siltstone grains.		
	80			
	Tr.			
730-740	20	Sandstone } As above. Fossil fragments } Tr. Weathered pink feldspars & siltstone fragments.		
	80			
	Tr.			

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 02A

15th April 1970

Company: *Woodside Oil N. L.*

Well: *Salt Lake N°1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
740-750	10	Sandstone, pale grey, poorly consolidated, strongly calcareous (matrix) with occasional colourless s/ang. gtz. grd. med-fu. grd., poorly sorted, good porosity.		
	90	Fossil fragments comprise skeletal remains of Bryozoa, Pelecypods, Gastropods & forams. Minor reddish brn. siltstone fragments, giving the samples a reddish tint. (polyp coral)		
750-760	10	Sandstone as above with prominent blk. lithic inclusions		
	90	Fossil fragments as above. Reddish clay impregnates the unwashed sample.		
760-770	10	Sandst. } as above.		
	90	Fossil fragmts. }		
770-780	10	Sandstone } as above.		
	90	Fossil fragmt. }		
780-790	20	Sandstone } as above, ^{but with} less reddish silt		
	80	Fossil fragmt. }		
790-800	20	Sandstone } as above.		
	80	Fossil fragmt. }		
800-810	20	Sandstone } as above with a trace of greenish		
	80	Fossil fragmts. } grey siltstone		
810-820	25	Sandstone, pale grey poorly consolidated with embedded fossil frags, mostly corals. Some dark lithics, & weathered glauconites.		
	75	Fossil frags - predominately coralline remains, brachiopod & pelecypod remains and forams. Heterogeneous textured		
	Tr.	Greenish grey, firmly compacted sample , friable brittle, comprising v. fr. silty sand and detrital material. Sample is no longer tainted a reddish colour; it has assumed a greyish tinge.		
820-830	30	Sandstone } as above, with occ. pebbly sized		
	70	Fossil fragmts. } milky wh. gtz. (rounded) probably cavings?		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

15th, April 1970
813534 025

Company: *Woodside Oil N.L.*

Well: *Salt Lake No. 1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
830-840	30	Sandstone, pale grey, poorly consolidated, str. calc. matrix, interbedded and embedded fossil frags. Abund lithic inclusions. Poorly sorted. Good porosity (ruggy?)		
	70	Fossil frags. Mostly coralline frags, forams, brachiopods & pelecypods. The reddish silty sand has reappeared in the sample. Possible interbeds of greenish grey and reddish silty material.		
840-50	25	Sst.		} As above with a pronounced reddish tint in the samples.
	75	Foss. frags.		
850-60	25	Sst.		} As above.
	75	Fossil frags.		
860-70	10	Sandstone, as above but the very fine sized sand is not recoverable in the samples		
	90	Foss frags. Predominantly coralline frags, brachiopods & pelecypods.		
870-80	10	S very fine grained, poorly sorted, angular quartz.		
	90	COG LT BRN, SOFT TEX HET F-CRS (SRT). FOSS: BRY FORAM (BENTH), DENTALIUM.	POR	
	100	COG LT BRN SOFT. TEX HET F-CRS (SRT) GR OF QZ, FOSSILS, GLC, FOSSILS: BRY (BRANCHING, ENCRUSTING, MASSIVE) FORAM PELAGIC, BENTHIC, DENTALIUM, PELCP	POR	
900		AS ABOVE.	POR	
910		AS ABOVE.	POR	
920		AS ABOVE.	POR	
930		AS ABOVE.	POR	
940		AS ABOVE, SOME FOSSILS FILLED WITH GRN MUD.	POR	
950	80	PKSTN LT BRN. SOFT, TEX HOM, F-CRS (SRT) ANG. FOSS: FORAM, BRYOZOA, GLC. forams in PKSTN fossils, qtz, mica, GLC.	POR	

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 026

Company: WOODSIDE (L.E.) N.L.

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
960	100	PKSTN - GRNSTN LT BRN SOFT, TEX HOM F-CRS (SRT), FOSSILS: FORAM, BRY, PELCP GLC, LIGNITE. GR in PKSTN re GLC, QZ, MIC, CALC FOSS FRAGS.	<u>POR</u>	
970	100	AS ABOVE GRNSTN AS ABOVE. FOSS: FORAM, BRY, PELCP, ECH.	<u>POR</u>	
980		AS ABOVE CRS-MED.	<u>POR</u>	
990		GRNSTN, FRAGMENTS OF SAND SIZED PARTICLES OF FOSSILS, QZ, GLC,	<u>POR</u>	
1000		AS ABOVE	<u>POR</u>	
1010		AS ABOVE	<u>POR</u>	
1020	100	AS ABOVE, WITH OCCASIONAL PATCHES OF QZ SANDSTRICT IN FOSSILS.	<u>POR</u>	
1030	100	GRNSTN WITH FRAGS OF QUARTZ, FOSSILS, GLC, WITH ADMIXED LARGER FOSSILS (PELCP).	<u>POR</u>	
1040	100	GRNSTN AS ABOVE	<u>POR</u>	
1050	100	GRNSTN WITH SAN FINE-SAND-SIZED GRNS	<u>POR</u>	
1060	100	AS ABOVE	<u>POR</u>	
1070	100	AS ABOVE	<u>POR</u>	
1080	60 40	LST WHT, MOD. HARD, TEX HOM F. GRNSTN AS ABOVE.	<u>POR</u>	
1090	70 30	COG. WH, FOSS: BRY, FORAM GRNSTN AS ABOVE.	<u>POR</u>	
1100		AS ABOVE.		
1110	90 10	COG FOSS: BRY, FORAM SANDSTONE + GRNSTN.	<u>POR</u>	
1110- 1120	60 40	GRNSTN COG FOSS: BRY (ENCrustING, MASSIVE, BRANCHING) FORAM.	<u>POR</u>	

1120'-1130' 80% Granitone, light grey, soft, homogeneous texture,
fine - medium, angular, fossiliferous fragments, glauconite.
20% Coquina, Forals - Bryozoa, Foraminifera.

1130'-1140' 60% Limestone, white, hard, homogeneous texture, fine,
ill sorted, angular, fossils include corals.

20% Coquina, Forals - Bryozoa, Foraminifera.

20% Granitone, light grey, soft, homogeneous texture,
fine - medium, angular, fossil fragments, glauconite.

1140'-1150' 90% Granitone, as above but fine-grained.

10% Coquina, Forals - Bryozoa, Foraminifera.

1150'-1160' as above.

1160'-1170' 100% Granitone, light grey, soft, heterogeneous texture,
fine to coarse, ill sorted, angular fossiliferous -
Foraminifera, Pelecypoda, Bryozoa, Glauconite, pyrites.

1170'-1180' 100% Granitone as above

1180'

1210'-1220' 80% Mud, light grey, very fine grained.

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 028

Company: WOODSIDE (L.E.) N.L.

Well: SALT LAKE

Depth Interval	%	Lithologic Description	Porosity	Remarks
1130	80	GRNSTN LT GY SOFT TEX HOM F-m ANG FOSS: FRAGS, GLC.	POR	
	20	COQ. FOSSILS: BRY, FORAM.		
1140	60	LST - WHT, HARD TEX HOM, (SRT) ANG FOSSILS: CORAL, DRY	POR	
	20	COQ. FOSSILS: BRY, FORAM		
	20	GRNSTN LT GY SOFT TEX HOM F-m ANG, FOSS: FRAGS, GLC.	POR	
1150	90	GRNSTN AS ABOVE F-SAND SIZE.		
	10	COQ. FOSSILS: DRY FORAM.		
1160		AS ABOVE.	POR	
1170	100	GRNSTN LT GY SOFT TEX HOM HET F-CRS (SRT) ANG. FOSS: FORAM, PELCP, BRY. GLC, PYRITE		
1180	100	GRNSTN AS ABOVE.	POR	
1190		AS ABOVE.		
1200		AS ABOVE	POR	
1210		AS ABOVE	POR	
1220	80	MARL LT GY, F		
	20	GRNSTN AS ABOVE.		
1230	60	GRNSTN		
	40	MARL LT GY F		
		<i>San</i> 16/4/70		
1240	50	Granstone		} as above.
	50	Fossiliferous marl		
1240-50	30	Sandstone, pale grey, poorly consolidated with pct. calc. matrix.		
	70	Fossils largely, brachiopods, pelecypods forams & coralline fragments. Sample is marly.		
1250-60	25	Sandstone - as above with glauconitic gr. as in place of microfossils		
	75	Fossils, as above.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 029

16th April 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake N°1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
1260-70	25	Sandstone - with abund. glauc. infills Less. linst., marly, abund. foss. frag.		
	75			
1270-80	10	Sandstone - as above.		
	90	Marly limestone - fossiliferous, as above.		
1280-90.	90	Marl - strongly fossiliferous. Abund. brachiopods corals; sandy in pt. Sandstone - less glauc. than previous sample. Tr. calcite and/or dolomitic fractions milky white, hd. x'talline; weathered feldspars		
	10			
1290-1300	100	Marl, pale grey to grey, soft, sticky sandy in pt. Abundant fossiliferous fragments.		
1300-10	100	Marl, grey as above. Glauconitic infills of microfossils.		
1310-20	90	Marl as above. Occ. large sized pelecypods and coralline remains. Sand, cloudy qtz, med. to cts. grad. sand to rounded.		
	10			
1320-30	90	Marl } as above		
	10		Sand	
1330-40	90	Marl } as above.		
	10		Sand	
1340-50	90	Marl } as above, sample v. clayey.		
	10		Sand	
1350-60	100	Marl, pale grey, abundant fossil fragments, some iron staining on core fragments.		
1360-70	100	Marl as above.		
1370-80	100	Marl " "		
1380-90	100	Marl - -		
1390-1400	100	Marl - -		
1400-10	100	Marl - -		
1410-20	100	" - -		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

16th April 1970.

Company: Woodside Oil N.L. 913534 030 Well: Salt Lake #1.

Depth Interval	%	Lithologic Description	Porosity	Remarks
1420-30	100	Marl, grey, sticky soft, sample v. clayey. Abundant foss. frags. mostly coralline remains and forams. Mostly glauconitic. Tr. Qtz. sand, med. to cts. milky wht, spral, rnd, some ferruginised, Tr. Calcite fractures, x'talline, milky wht. blocky Random pueritic aggregate.		
1430-40	100	Fossiliferous marl. - grey, sticky abundant coral frags & forams. Some caving of clay silt sized particles from upper levels evident.		
1440-50	100	Fossiliferous marl - as above.		
1450-60	100	Foss. marl - as above		
1460-70	100	Foss. marl - as above.		
1470-80	100	Foss. marl, as above		
1480-90	100	Foss. marl; strongly clayey clayey		
1490-1500	100	Foss. marl, as above but abund. glauc. grains dissem. throughout. Some lnst. aggreg. - pueritic appearance.		
1500-10	100	Foss. marl - as above		
1510-20	100	Foss. marl - as above, with occ. lumps of clay embedded in samples.		
1520-30		Fossiliferous marl as above.		
1530-				
1540	100	Foss. MARL AS ABOVE.		
1540-				
1550	100	Foss. MARL WITH GLC. + QTZ GR.		
1550-				
1560		AS ABOVE.		
1560-				
1570	100	Foss. MARL + PKSTN (AS INTERBEDS?)		
1570-				
1580		AS ABOVE.		
1580-				
1590		AS ABOVE.		
1590-				
1600		AS ABOVE		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 031

Company: **WOODSIDE (L.F.) N.L.**

Well: **SALT LAKE #1**

Depth Interval	%	Lithologic Description	Porosity	Remarks
1600 1610	100	MRL, FOSSILIFEROUS LT BRN. F, WITH PKSTN INTERBEDS? FOSSILS: DRY, FORAM, SANDY + GLC.		
1610 1620	80	GRNSTN LT-M BRN, CMT, TEX HOM, F, ANG (SRT). FOSSILS: DRY FORAM. GLS OF QZ GLC	<u>POR</u>	
	20	MRL AS ABOVE.		
1620 * 1630	50	GRNSTN AS ABOVE	<u>POR</u>	
	50	MRL AS ABOVE		
1630 1640	95	GRNSTN LT-M BRN CMT TEX HOM F-m ANG (SRT) FOSS: PELCP BRY FORAM GLC, QZ PYRITE	<u>POR</u>	
	5	MRL AS ABOVE		
1640 1650	100	GRNSTN LT-M BRN CMT (WITH SPARRY CALCITE) TEX HOM P-CRS (SRT) FOSS: BRY FORAM, CORAL GLC,	<u>POR</u>	
1650 1660	60	GRNSTN AS ABOVE	<u>POR</u>	
	40	MRL AS ABOVE.		
1660 1670	60	GRNSTN AS ABOVE	<u>POR</u>	
	40	MRL AS ABOVE		
1670 1680	80 100	GRNSTN LT BRN, CMT, TEX HOM, F-m (SRT) FOSS: FORAM, BRY	<u>POR</u>	
1680 1690	50	GRNSTN AS ABOVE		
	50	MRL LT BRN, STICKY R.F. CLAY		
1690 1700	80	GRNSTN AS ABOVE		
	20	MRL AS ABOVE		
1700 1710	60	MRL FOSSILIFEROUS, AS ABOVE		
	40	GRNSTN.		
1710 1720		AS ABOVE.		
1720 1730	80	MRL		
	20	GRNSTN.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 032

Company: WOODSIDE (L.E.) NL

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
1730 1740	90	MRL AS ABOVE		
	10	GRNSTN. AS ABOVE.		
1740 1750	90	MRL		
	10	GRNSTN		
1750 1760	100	MRL LT-M BRN, FOSSILIFEROUS		
1760 1770	95	MRL AS ABOVE		
	5	GRNSTN.		
1770 1780	100	FOSSILIFEROUS MARL.		
1780 1790	100	AS ABOVE		
1790 1800		AS ABOVE.		
1800 1810	95	MRL AS ABOVE		
	5	GRNSTN AS ABOVE.		
1810 1820	80	MRL		
	20	GRNSTN		
1820 1830	90	MRL		
	10	GRNSTN.		
1830 1840	90	MRL		
	10	GRNSTN.		
1840 1850	95	MRL		
	5	GRNSTN.		
<i>765 am 12/14/70.</i>				
1850-60	100	Marly limestone - v. str. calcareous. Tr. pyritic aggregate.		
1860-70	100	Marly lmst. Pale grey hard, v. str. calc., clayey in pt. (marly). Varying amounts of fossiliferous frags. dom. coralline remains. Glauconite disseminated throughout.		
1870-80	100	Marly lmst. - as above with trace of med. fragd. milky wh. s/s. (feruginous s/s)		
1880-90	100	Marly lmst. - as above, no tr. of s/s. pample very clayey. abundant foss. frags.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS 033

17th April 1970

Company: Woodside Oil N.L.

Well: Salt Lake No. 1.

Depth Interval	%	Lithologic Description	Porosity	Remarks
1890-1900	100	Fossiliferous marly lmst. Pale grey to grey, poorly consolidated v. str. calc., can clayey in pt. Abund. foss. frags notably corals & forams. Glauconitic grains. Tr. Qtz. sand - milky wht., med-fn. grad, s/rud.		
1900-1910	100	Marly lmst. - as above		
1910-20	100	" " " "		
1920-30	100	" " " "		
1930-40	100	" " " "		
1940-50	100	" " " "		
1950-60	100	" " " "		
1960-70	100	" " " "		
1970-80	100	Marly lmst. as above. (shales)		
1985	80	Marls, very clayey (grey to pl. grey) tend to wash off 20 Limestone, sandy in places, fossiliferous. *Clayey nature of sample due to shales. Possible top of the Lakes Entrance Formation.		
1985-90	80	Marl } as above, sample v. clayey. 20 Limestone		
1990-2000	90	Marl } as above 10 Limestone		
2000-10	90	Marl } as above, abund. fossils. 10 Limestone Tr. milky wht. submd., med-fn. grad qtz. with pyrite growths on x'tal interfaces.		
2010-20	90	Marl } as above 10 Limestone		
2020-30	90	Marl } as above 10 Limestone		
2030-40	90	Marl } as above 10 Limestone		

DRILL CUTTINGS SAMPLE DESCRIPTIONS 034

17th April 1970

Company: *Woodside Oil N.L.*

Well: *Falt Lake #1*

Depth Interval	%	Lithologic Description	Porosity	Remarks
2040-50	90	Marl, grey, soft, sticky, lumps of clay		
	10	limest. foss. fragmentary dom. conchs + forams		
		Tr. pyrites as aggregates		
2050-60	100	Marl - as above		
2060-70	100	Marl - as above, samples v. clayey.		
2070-80	100	Marl - as above.		
2080-90	100	Marl - as above		
2090-2100	100	Marl as above		
2100-2110	100	Marl - as above.		
2110-2120	100	Marl - as above		
2120-30	100	Marl as above		
2130-2140	100	Marl - as above		
2140-50	100	Marl as above.		
2150-60	100	Marl - as above with prominent lumps of clay.		
2160-70	100	Marl - as above. Large lumps of clay.		
2170-80	100	Marl - as above.		
2180-90	100	Marl - as above		
2200		AS ABOVE.		<div style="border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block;"> Stop cherting next from at 2224. </div>
2210		AS ABOVE.		
2220		Hard clayey marl with sponge spicules (criticous), quartz sand grains, glauconite, mica, pelagic forams, etc.		
2230		AS ABOVE (G.D. indicates slight trace of methane.)		
2240		Pilot HOLE		2230 - 2240
2250		Marly limestone		2240 - 2250

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: **WOODSIDE (L.F.) NL.**

Well: **SALT LAKE # 1**

Depth Interval	%	Lithologic Description	Porosity	Remarks
2260		AS ABOVE	913534	035
2270		MRL, GREEN, SLIGHTLY SANDY.		
2280	80 70 30	8AM 18/4/70 MRL glauconitic. PR GRANSTN, with some quartz sandstone, pyritic patches.		
2290		AS ABOVE.		
2300		AS ABOVE.		
2310		AS ABOVE.		
2320		AS ABOVE.		
2330		AS ABOVE. — Green clayey marl. — pyritic in pt.		
2330-40	75	Marl — greenish, soft, plastic, glauconitic strongly argill.		
	25	lmsst. — reddish brn, green to pale green v. str. calc, glauconitic in pt, foss. frag. mostly corals, ^{strongly} pyritic to some extent		
	Tr	Qtz grains, $\frac{1}{8}$ - $\frac{1}{4}$ in. dia, sand, v. poorly sorted.		
2340-50	90	Marl — as above, bluish grey clay,		
	10	lmsst — pale gm., pyrite veins & aggregates. Occ. glauconitic matrix. v. str. calcareous. argill. in pt.		
2350-60	90	Marl } as above, sample v. clayey		
	10	lmsst. }		
2360-70	90	Marl } as above.		
	10	lmsst. }		
2370-80	90	Marl } as above.		
	10	limestone }		
2380-90	75	Marl — pale gm. sticky plastic		
	25	lmsst. — white to pale gm. Strongly pyritic expressed as veins. Ditupa worm casts —		
2390-2400		AS ABOVE.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company:

Well:

Depth Interval	%	Lithologic Description	Porosity	Remarks
2410	90	MARL		
	10	SAND-SIZED CARBONATE FRAGMENTS	913534	036
2420		AS ABOVE		
2430		AS ABOVE		
⁴ 2440	100	BLUE-GREEN MARL, SLIGHTLY SANDY TRACES OF LIGNITIC MATERIAL, ETC.		
⁴ 2450	90	Marl, pale gray, and greenish grey, soft sticky plastic, strong argill. sandy in pt.		
	5	Limestone, pale gray, gray to white, crystalline with varying amt. of pyrites evidenced as veinlets.		
	5	Claystone - vivid green, sandy in pt. pl. carbonaceous.		
2450-60	80	Marl		} as above
	10	Limestone		
	10	Claystone		
2460-70	80	Marl		} as above
	15	Limestone		
	5	Claystone		
2470-80	80	Marl		} as above, very clayey.
	20	Limestone		
2480-90	80	Marl		} as above
	10	Limestone		
	10	Claystone		
2490-2500	90	Marl		} as above
	10	Limestone		
2500-10	90	Marl		
	10	Limestone		
2510-20	100 90	Marl		
(2517)	10	Siltstone Siltstone (claystone) brown, dk. brown, strongly ferruginized, brittle, carbonaceous. Pyrite growth on some interfaces. Random pyrite aggregates, also as nodules.		
		Siltstone - st. argill., not soft. v. slightly calcareous.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: *Woodside Oil N.H.*

18th April 1970
Well: *Falt Lake #1*

Depth Interval	%	Lithologic Description	Porosity	Remarks
2520-30	70	Marl - as above.	913534	037
	20	Limestone - -		
	10	Siltstone		
		Tr. Clear-milky wht. sfg., med-v. fine grd., sprnd. Abundant pyrite both as clusters or aggregates and small nodules.		
2530-40	70	Marl		
	20	Limestone		
	10	Siltstone		
		} as above		
2540-50	90	Coal, brown to dark brown, earthy, friable soft, argill. in pt.		
	10	Clay - bluish grey, soft, plastic, glauconitic		
		Dentative top of UCM @ 2546'		
2550-60	100	Coal with thin bands clay.		
2560-70	100	Coal		
2570-80	100	Coal		
2590-90	100	Coal		
2590-2600	80	Coal as above.		
	20	Sand, clear to sl. clay, med - crs. grd. sfg. sand, sprng, sprnd, moderate sorting, good to excellent porosity. No fluorescence; but some ^{possibly} recorded, emanating from coal beds.		
2600-2610	50	Coal		
	50	Sand		
		} as above.		
2610-20	80	Sand		
	20	Coal		
		} as above.		
2620-30	90	Sand		
	10	Coal		
		} as above.		
2630-40	80	Coal		
	20	Sand		
		} as above.		
2640-50	60	Coal		
	40	Sand		
		} as above.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

918534 038

19th April 1970

Company: *Woodside Oil N.L.*

Well: *Saet Lake N°1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
2650-60	70 ⁵	Coal, dk brn to blk., earthy, occ. woody fragmt. friable, soft, (some large chunks coals) Occ. thin clay (grey) bands associated with the coal.		
	20 ⁵	Sand clear, sl. cldy, unconsolidated v. ers. grd. moderate porosity, good porosity. No fluorescence		
2660-70	70 ⁵	Coal } as above, with lumps of clay & greenish		
	20 ⁵	Sand } grey marls, possibly clay shavings.		
2670-80	90	Coal } as above. Occ. v. ers. grd. sh. sd.		
	10	Sand }		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 039

Company: WOODSIDE (E.) NL

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
2680-90	100	SILTSTONE grey and pale brown-red, firm, flakey fracture. about 20% is dark mafic mineral, possibly mica. non calcareous		
2690-2700	100	SILTSTONE - as above, but occasionally the siltstone contains sand-size grains of clear white mineral, possibly quartz		
2700-2703	100 80	COAL - black, dirty, dull, weak to firm, granular fracture		
2703-10	20	SILTSTONE pale creamy brown. As above except that sandy content is slightly higher. Also some of sandy grain appear to be feldspathic. Rare coarse, free grains of quartz present		
	80	COAL as above		
2710-20	50	SILTSTONE pale cream brown, weak to firm, often clayey, very little sandy material, tabular fracture		
	50	COAL dull black, as above		
2720-30	10	SAND clean quartz angular, well sorted		
	70	SILTSTONE as above		
	20	COAL as above		
2730-40	5	SAND as above		
	1x	SANDSTONE fine grained, white, clayey, ^{rare glauconitic} light		
	85	SILTSTONE as above, with occasional sand grains		
	10	COAL as above		
2740-50	80	SAND coarse grained clear quartz, angular, well sorted		
	10	SILTSTONE as above		
	10	COAL as above traces of fluorescence - seem to come from a micaceous siltstone		
2750-60	50	SAND clean quartz, coarse to very coarse, subangular, medium sorting		
	5	SANDSTONE pale buff grey, very hard, composed mainly of silt-sized siliceous cement, with about 30% as angular quartz of fine grain size *some calcareous		
	5	SANDSTONE white, fine grained, hard, feldspathic, tight and slightly glauconitic		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 040

Company:

Well:

Depth Interval	%	Lithologic Description	Porosity	Remarks
2750-60	20	SILTSTONE as before		
(cont)	10	COAL as before		
		traces of fluorescence but may be from lubricating grease		
	5	SILTSTONE speckled black, weak - black material		
2360-70		may be mica, but possibly lignite or carbon since rock seems to be gradational to coal		
2760-70	70	SAND clean quartz, coarse grained, well sorted, rounded to subrounded		
	15	SILTSTONE buff brown as above		
	5	SANDSTONE fine grained white, well sorted, slightly glauconitic, firm, kaolinitic cement		
	10	COAL dull black as above		
	tr	coaly siltstone as above		
2770-80	50	SAND as above, subangular poor sorting		
	30	SILTSTONE as above, occasional sandy grains		
	20	COAL as above		
		specks of fluorescence present before washing		
2780-90	100	COAL dull black-brown, weak		
2790-3800	5	SILTSTONE as above		
	95	COAL as above		
	tr	flakes of white mica		
2800-10	10	SAND med. coarse subangular quartz, med sorting		
	tr	SANDSTONE silicious silt sized matrix with scattered fine quartz grains		
	5	SILTSTONE white, weak, clayey		
	10	SILTSTONE buff brown, as above		
	75	COAL as above		
2810-20	5	SAND med. grained clear quartz		
	5	SILTSTONE buff col, etc as above		
	90	COAL as above		
2820-30	10	SAND med. grained clear quartz, angular well sorted		
	10	SILTSTONE buff brown, as above		
	10	SILTSTONE speckled black, coaly, weak		
	70	COAL as above		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 041

Company: WOODSIDE OIL N.L.

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
2830-40	10	SAND med grained, clear angular well sorted quartz		
	10	SILTSTONE buff col, as above, and white clayey siltstone		
	80	COAL as above		
2840-50	10	SAND as above		
	90	COAL black - fracturing into long shivers with smooth edges. At times concordant fractures quite firm		
2850-60	40	SAND clean quartz, medium to coarse angular, med-well sorted		
	10	SILTSTONE buff brown, as above		
	10	SILTSTONE black, coaly, weak, lustrous		
	40	COAL as above		
2860-70	70	SAND as above		
	TR	SANDSTONE med grained quartz in very high % kaolinitic matrix - about 50% med. form. Also trace of fine grained kaolinitic sandstone, also well sorted		
	TR	SILTSTONE - both buff & coaly, as above		
	80	COAL as above		
2870-80	70	SAND coarse clean white angular quartz grains, angular, well sorted		
	15	SILTSTONE speckled black, lustrous, coaly? weak to firm		
	15	COAL as above		
2880-90	60	SAND as above		
	5	SANDSTONE white fine grained siliceous hard, low porosity? well sorted		
	20	SILTSTONE dark grey, speckled lustrous as above		
	15	COAL as above		
2890-2900	50	SAND med coarse angular well sorted quartz		
	TR	(insignificant) white mica flakes		
	30	SILTSTONE speckled etc as above, but may often range up to very fine sand size with coaly matrix, 50/50%		
	20	COAL as above		
2900-10	30	SAND as above		
	40	SILTSTONE dark grey, speckled, weak		
	30	COAL as above		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 042

Company: WOODSIDE Oil N.L. Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
2910-20	20	SAND med-coarse - as above poorly sorted, subangular		
	10	SILTSTONE buff brown, etc as above		
	40	SILTSTONE dark grey, speckled, coal, as above		
	30	COAL black, dull, smooth fracture, etc, as above		
2920-30	100	COAL dull black etc as above		* very little sample of 2910
2930-40	100	COAL dull black and also brown, weak		
2940-50	100	COAL Brown, earthy, crumbly fracture weak to firm		
2950-60	100	COAL Brown + black, as above		
2960-70	100	COAL as above, mostly brown		
2980	100	COAL, DK BROWN, SOFT, V.F.G.		
2990	100	COAL AS ABOVE.		
3000	100	COAL AS ABOVE		
3010	100	COAL AS ABOVE.		
3020	100	COAL AS ABOVE. TR. OF ANGULAR QTZ GR. MED. GR.		
3030	100	COAL, AS ABOVE. PLANT FRAGS. VISIBLE.		
3040	95	COAL AS ABOVE.		
	5	QTZ SAND, MED. GR., MOD. SORTING, ANGULAR.		
3050	95	COAL AS ABOVE.		
	5	QTZ SAND AS ABOVE.		
3060	95	COAL		
	5	QTZ SAND.		
3070	95	COAL		MICH BOOKS FROM LOST CIRCULATION
	5	QTZ SAND.		MATERIAL PRESENT
3080	100	COAL, DK BROWN, SOFT, BRITTLE.		
3090	95	COAL		SLIGHT GAS
	5	QTZ SAND, MOD. SORTED, ANGULAR.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

23 18834 043

Company: WOODSIDE (L.E.) NL

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
3100	45	COAL DK BRN, SOFT, BRITTLE, V.F.GR.	POR	OCCASIONAL GAS KICKS VERY MINOR.
	5	QTZ SAND GRNS, MED., POORLY SORTED. TR. MICR BODKS (L.C.M ?)		
3110	100	COAL DK BRN, SOFT, BRITTLE, FRIABLE.	POR	
3120	100	COAL DK BRN, SOFT, SILTY.	POR	
		SAM 23/4/70		
3130	100	COAL AS ABOVE, WITH TRACES OF QTZ SAND.		
3140-50				
3130-40	100	Coal, black, dk. brn., vitreous, abund. woody frags, striated.		
		Tr. Clear sty. sand, med - ft. grd. s/ang., s/rud. Pyrite aggrs.		
3140-50	100	Coal, as above		
3150-60	100	Coal, as above		
3160-70	100	Coal, as above		
3170-80	100	Coal, as above		
3180-90	100	Coal, as above		
3190-200				
3190-200	50	Coal as above		
	50	Sandstone, clear s/ang, ang. sty, med to co. grd. moderate sorting, occ. oil. matrix. Good porosity. NO fluor. v. slightly calc.		
3200-10	70	Coal } as above		
	30	Sandstone }		
3210-20	80	Coal } as above		
	20	Sandstone }		
3220-30	90	Coal } as above		
	10	Sandstone }		
3230-40	90	Coal } as above.		
	10	Sandstone }		
3240-50	80	Coal } as above.		
	20	Sandstone }		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

23rd April 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake N° 1*

Depth Interval	%	Lithologic Description	Porosity	Remarks
3250-60	80	Coal } as above.	013534 044	
	20	Sandstone }		
3260-70	90	Coal } as above. Predominantly as brn coal.		
	10	Sandstone }		
3270-80	80	Coal } as above Brn. Coal.		
	20	Sandstone }		
3280-90	70	Coal } as above Brn. Coal.		
	30	Sandstone }		
3290-3300	90	Coal } as above Brn. Coal.		
	10	Sandstone }		
3300-10	90	Coal } as above		
	10	Sandstone }		
3310-20	80	Coal		
	20	Sandstone - Dem. clear, med-cts. grd. g/f. od, s/ang, angular, becoming increasingly more siliceous. - very abrasive.		
3320-30	80	Coal } as above.		
	20	Sandst. }		
3330		AS ABOVE.		
		+ DK-MED BRN,		
3350	80	COAL DK BRN, SOFT, FRIABLE, V.F.G., LAMINATED, SOME DULL, SOME VITREOUS.		
	20	SANDSTONE, QZ GR. MED-FINE GR, MODERATELY SORTED, ANGULAR, SOME SUB ANGULAR, EQVANT TO BLADED. RARE FRAGS OF GLAUCONITIC SANDSTONE F.GR., POORLY SORTED.		
3360	90	COAL AS ABOVE		
	10	SANDSTONE AS ABOVE.		
3370	70	COAL AS ABOVE		
	30	SANDSTONE AS ABOVE.		
3380	40	COAL AS ABOVE		
	60	SANDSTONE AS ABOVE		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company:

Well:

Depth Interval	%	Lithologic Description	Porosity	Remarks
3390	80	Sandstone		
	20	Coal	9.3534	045
3400	100	Sandstone, apparently unconsolidated, qtz grains poorly to moderately well sorted, angular to subangular, occasionally subrounded.		
3410	100	SANDSTONE.		
3420	100	AS ABOVE		
3430	100	SANDSTONE.		
3440	100	SANDSTONE.		
3450	70	SANDSTONE, POORLY SORTED, SLIGHTLY GRAVELLY.		3451 GAS KICK (TR)
	30	COAL, DK BRN - BLACK, SOFT, BRITTLE.		
3460	85	COAL AS ABOVE		
	15	SANDSTONE, SLIGHTLY GRAVELLY, POOR COARSE FRAMED, POORLY SORTED. milky wht. silicious slang, angular. Tri. dolomitic fractions Random pyrite		
<p>SLOW DRILLING. SAM. 24TH APRIL.</p>				
3460-				
3462'	100	Gravelly qtz. - clear, sl. cldy. sang. to angular very silicious, partly ferrug., trace of coal.		
3462'				
3464'	100	% Gravelly qtz - as above		
3464'				
3466'	100	% Gravelly qtz - " "		
3466-70	50	Coal, dk. brn., earthy, friable some woody frags.		
	50	Gravelly qtz. - milky wht. to clear fragmented qtz, slang. to angular, crs. to v. crs. moderately sorted, intensely silicious		
3470-80	60	Coal		} as above.
	40	Sandstone		
3480-90	60	Coal		} as above. Sl. ferruginous in pt
	40	Sandstone		
3490-3500	40	Coal		} as above.
	60	Sandstone		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

24th April 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake N° 1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
3500-10	40	Coal - as above.		
	60	Sandstone - fragmented, clear - clay, <i>gtg.</i> , med-ers. grd; moderately well sorted;		
	Tr	bm. clay, often pyritic;	9.3534	046
3510-20	40	Coal } as above.		
	60	Sandstone }		
3520-30	30	Coal } as above,		
	70	Sandstone }		
3530-40	40	Coal } as above. <i>small modules of</i>		
	60	Sandstone } <i>pale grey clay.</i>		
3540-50	30	Coal } as above, with abundant		
	70	Sandstone } <i>med- to grd. <i>gtg.</i> (subang. angular) sh. siliceous. Random pyrite nodules</i>		
		(<i>Occ. v. ers. to granule sized <i>gtg.</i> grains as well</i>)		
3560	80	SANDSTONE, coarse grained, poorly sorted, angular grns.		
	10	CARBONACEOUS MUD (COAL?) DK BRN, SOFT, (QUARTZ- PEBBLE GRANULE CONGLOMERATE)		
3570	90	SANDSTONE AS ABOVE		Bit change.
	10	COAL AS ABOVE.		
3580	100	SANDSTONE, COARSE GRAINED, ANGULAR-SUB ANGULAR, POORLY SORTED QUARTZ FRAGMENTS CEMENT UNKNOWN.		
3590	100	AS ABOVE		
3600	100	SANDSTONE AS ABOVE		
3610	100	SANDSTONE AS ABOVE		
3620	100	COAL, DK BROWN, SOFT, V.F. GR.		
3630	80	COAL AS ABOVE		
	20	SANDSTONE AS ABOVE.		
*3630.				
3640	90	SANDSTONE AS ABOVE		
	10	COAL AS ABOVE.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: WOODSIDE (L.E) N.L.

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
		SAM 25 TH APRIL 1970	913534	047
3650	30	Coal, dk. brn. to black, fragmented.		
	70	Sandstone, clear, clay, med-ct. grd. s/fang, ang. gty, med. well srted, str. sil. in pt, (some pyrite growths on some interfaces).		
3650-60	30	Coal as above.		
(55 min)	70	Sandstone as above, with sl. increase in pyrite. Also trace of colorless, sacrosin, vfn grd. sil. sst.		
3660-70	40	Coal as above.		
(55 ⁵³ min)	60	Sandstone — as above. Trace (silt sized) ^{vfn grd} gty. sst. and conglomerating sandstone. Dom. v. cts. to granule sized, angular gty. material.		
60-65 = 23 min				
65-70 = 32				
●	55 min			
3670-80	80	Coal		
(34 min)	10	Conglomerate sandstone } as above. — granule sized gty. (subang-ang) frags. Coal content increasing towards base of <u>this</u> interval.		
3680-90	10	Pale yellow ^{brn} clay, sticky		
3680-90				
3683		Sample @ this interval comprised 90% pale brn. to light yellow clay, 5% fragmented sst as above, 5% coal — as above.		
3680-90	80%	Pale brn. to buff coloured sticky <u>CLAY</u>		
(110 min)	10%	Qz sandst, subang, med-ct. grd.		
80-85 = 45 min	10%	Coal, — possiblyavings, at this interval. Increase of pyrite nodules.		
85-90 = 65 min		Long drilling time (suggests a worn bit and/or balled bit).		
3690-3700	30%	clay		
(55 min)	70%	Sandstone as above, Tr. dolomite, ?		
3700-10	10%	clay		
(45 min)	20%	Coal		
	70%	Sandstone		
		} as above. No trace of dolomite. Rare pyrite.		
3710-20	10%	clay		
(35 min)	10%	Coal		
	80%	Sandstone		
		} as above		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

25th April 1970

Company: Woodside Oil N.L.

Well: Salt Lake No. 1.

Depth Interval	%	Lithologic Description	Porosity	Remarks
3720-30 (45mins)	10 10 80	Clay Coal Sandstone		
		} as above. Tr. dolomitic fragments (?)		
			913534	048
3740		AS ABOVE.		
3750	80 10 10	SANDSTONE PYRITIC, POORLY CEMENTED. CLAY WHITE, MOTTLED, SOFT. COAL.		
		TR. LITHIC FRAGMENTS.		
3760	100	SANDSTONE, QUARTZ GRANULES, POORLY SORTED, ANGULAR TO SUBANGULAR, CEMENTED WITH PALE BROWN SOFT CLAY WITH INCLUDED V.F.G.R. MICA; SANDSTONE PYRITIC WITH CUBES + DODECAHEDRAL CRYSTALS.		
3770	100	SANDSTONE. QUARTZ GRANULE, VARIETIES OF QUARTZ - AMETHYST, MILKY,		
3780	100	SANDSTONE WITH OCCASIONAL FRAGMENTS OF SANDSTONE &, SOME GRAINS SUBROUNDED.		
3790	100	SANDSTONE, WITH RARE LITHIC FRAGMENTS		
3800	100	SANDSTONE AS ABOVE, WITH RARE MICA.		
3810	100	SANDSTONE AS ABOVE.		
3820	100	SANDSTONE, AS ABOVE.		
3830	100	SANDSTONE AS ABOVE		
3840	70 30	SANDSTONE AS ABOVE CLAY SOFT, WHITE		
3850	80 20	SANDSTONE CLAY, WHITE, SOFT.		
3860		AS ABOVE.		
3870	90 10	SANDSTONE - QTZ GRANULES GRADING TO VERY FINE SAND; PYRITIC. CLAY WHITE, SOFT. TR. COAL		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: WOODSIDE

Well: SALT LAKE #1

Depth Interval	%	Lithologic Description	Porosity	Remarks
		8 AM 26 th APRIL		
3880 50mins	100	Sandstone, crs. to vers. colorless, sl. cldy. ^{sand} gl. gr. mod. well sorted; str. sil. ^{in places} pyrite grains Tr weathered feldspar; Dolomite(?) grains	91.85	34 049
3880-90 (65mins)	95 5	Sandstone - as above & minor milky wht. gl. gr. CLAY - as nodules. Tr. weathered feldspar, occ. feldspar ^{grains} (not dolomite)		
3890-3900 60mins	45 5	COAL AS ABOVE SANDSTONE, AS ABOVE.		
3900	70 20 10	COAL DK BRN, SOFT. FRIABLE. CLAY WHITE, VERY SOFT SANDSTONE, PYRITIC. TR. SHELL FRAGMENTS IN PKSTN.		
389				
3900	100	SANDSTONE. CRS GR. QZ		
3910	95 5	COAL AS ABOVE SANDSTONE, AS ABOVE		
3920	70 20 10	COAL DK BRN, SOFT, FRIABLE. CLAY, WHITE, VERY SOFT SANDSTONE. PYRITIC. TR. PKSTN WITH FOSSILS. CAVINGS?		Slight reaction with HCl.
3930	70 70 20 10	AS ABOVE. SANDSTONE, QZ (VAR. AMETHYST RARE), COAL, PKSTN + CLAY.		
3940		AS ABOVE.		
3950		AS ABOVE, WITH SEVERAL FRAGMENTS OF VERY SOFT SPECKLED ^{GREY} SLTSTONE.		Slight reaction with HCl
3960	90 10	SANDSTONE + OCCASIONAL LITHIC FRAGMENTS. COAL.		
3970		AS ABOVE		"

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: WOODSIDIE

Well: SALT LAKE #1

#1

Depth Interval	%	Lithologic Description	Porosity	Remarks
3980	95	SANDSTONE, GRANULE - COARSE QUARTZ GRAINS.		
	5	COAL.		
			913534	050
3990	100	SANDSTONE, AS ABOVE.		
4000	95	SANDSTONE.		
	5	COAL TR. WHITE CLAY		
4010	95	SANDSTONE		
	5	COAL WITH TRACE OF DK BRN SILTSTONE. PISTON CAVINGS. AND WHITE CLAY.		
4020	100	SANDSTONE.		
4030	90	CLAY, WHITE - LIGHT GREY, VERY SOFT.		
	10	SANDSTONE, AS BEFORE.		
4040	50	CLAY AS ABOVE.		
	50	SANDSTONE AS ABOVE.		
4050	70	SANDSTONE AS ABOVE		
	30	CLAY, WHITE - LIGHT GREY, VERY SOFT.		
4060	70	SANDSTONE		
	30	SANDY CLAY, WHITE, LIGHT GREY, VERY SOFT.		
		SAM 27/4/70.		
4060-70	100	Sandstone, pale grey to colourless, comprising colourless to bl. clay, slang, angular crs. to v. crs. qtz. grains, moderately well sorted, sil. in pt., no fluorescence, fair to poor porosity. Abundant pyrite aggregates represented as v. crs. to granule sized nodules, often with grains of qtz. inclusions. Occ. buff coloured, weathered frags - not calcareous.		
4070-80	100	Sandstone - as above. Some clay contamination. Tr. colourless frags (v. fr. - fr. grd.), probably dolomitic origin.		
		33 min		
4080-90	70	Sandstone - as above, with abund. med. crs. grd. sand. qtz. sand. No fluorescence.		
	30	CLAY, Buff coloured very soft and washes away easily.		
		(35 min)		
4090-100	90	Sandstone } as above. Circulated sample.		
	10	clay		
		15 min		
			No fluor. No gas "kicks"	Geolog

DRILL CUTTINGS SAMPLE DESCRIPTIONS ^{913524 051}

27th April 1970

Company: Woodside Oil N.L. Well: Salt Lake N°1

Depth Interval	%	Lithologic Description	Porosity	Remarks
4100-4110 (15mins)	90 10	Sandstone } as above. Not as pil. Clay-(dk.bm.) } No fluorescence; no gas "kicks"		as before.
4110-20 (15mins)	90 10	Sandstone } as above. Poorly consolidated Clay-(dk.bm.) } sand. Good porosity. No fluorescence; no gas "kicks".		
* See . Circulated sample for interval 4090 to 4120. At FROM 4092', abund. med-fn grd., s/lng sand encountered. Probable lithological change.				
4120-30 (21mins)	100%	Sandstone. (as above samples, but gradual increase in crs. to med. grd. of sand. Moderately well sorted. No fluorescence; no gas "kicks". Good porosity)		Tr. coal (bm+blk)
4130-40 (18mins)	100	Sandstone. Down. crs. to v. crs. of sand. Random pyrite aggregates. (Trace bm+blk coal) Good porosity. No fluor. or g. k.		
4140-50 18mins	100	Sandst. - as above.		
4150-60 (20mins)	100	Sandstone - as above.		
4160-70 (20mins)	100	Sandstone - as above.		
4170-80 27mins	100	Sandstone - as above. Increase in v. crs. to minor granule sized of grains, random milky wht, some minor pyrites.		
4180-90 (40mins)	90 10	Sandstone as above; down. crs. grd., sl. clay of, well sorted. Clay - down dark brn, soft. Relative increase in pyrite content, generally present as aggregates.		No fluor. No G.K.
4190-4200 (19)	90 10	Sandstone } as above. N.F.L. Clay } N.G.K.		
4200-10 (38mins)	90 10	Sandstone } as above. Clay }		
Tr. pyrite & cavings(?) of coal, small ants. only (Trace Delonite?) fracture				

DRILL CUTTINGS SAMPLE DESCRIPTIONS

27th April 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake N°1*

Depth Interval	%	Lithologic Description	Porosity	Remarks
4210-20 (40min)	90	SANDSTONE, COARSE GR, POORLY SORTED, ANGULAR-SUBANGULAR.		
	10	COAL DK BRN, SOFT, WITH CONCHOIDAL FRACTURE IN HARD BLACK CUTTINGS OF COAL.		
4230		AS ABOVE.	913534	052
4240		AS ABOVE.		
4250	100	COAL LIGHT BROWN, DARK BROWN, SOFT.		
4260	90	SANDSTONE		
	10	COAL.		
4270	90	COAL		
	10	SANDSTONE		
	10			
4280	90	COAL		
	10	SANDSTONE		
4290	60	SANDSTONE		
	40	COAL.		
4300				
	80	Coal		
	10	SANDSTONE		
	10	CLAY.		
4310	90	COAL		
	10	SANDSTONE.		
4320	90	COAL SANDSTONE		
	10	SAN COAL.		
<u>8am 28th APRIL 1970</u>				
4330	95	COAL: DK BRN-BLACK, SOFT, FRIABLE.		
	5	SANDSTONE.		
4340	100	SAND coarse angular, well sorted		
4350	100	SAND as above		
4360	100	SAND coarse well sorted granular subang. $\frac{9}{13}$		
4370	95	SAND as above		
	5	COAL as above		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

Company: *Woodside Oil N.L.*

Well: *Jalshake N°1.*

28th April 1970

Depth Interval	%	Lithologic Description	Porosity	Remarks
4370-80 (28 min)	100	SAND as above		
4380-90 (26 min)	100	SAND as above	913534	053
4390-440 (28 min)	90 10	SAND as above COAL		
4400-10 (27 min)	90 10	Sandstone } as above Coal		
4410-20 (26 min)	90 10	Sandst. } as above Coal		
4420-30 3 min	90 10	Sandstone } as above Coal		
4430-40 (40 min)	90 10	Sandstone, compr. colorless, crs. - v. crs. s/rnd; 9/10 sand, moderately well sorted, good porosity No fluorescence; no gas kicks. Coal - dk. brn. to black, earthy soft. Random pyrite nodules		
4440-50 (50 min)	95 5	Sandstone - as above, increase in pyrite content. Coal, black, brn, soft earthy.		
4450-60	90 10	Sandstone - as above Coal, black, dirty.		
4460-70	100	Sandstone, clean, wh, coarse gr, subsd, mod std		
4470-80	90 10	Sandstone as above v. coarse - gravel Coal, bk as above		
4480-90	90 10	Sandstone as above, tr. pyr Coal bk as above		
4490-4500	100	Sandstone as above		
4500-10	100	Sandstone as above		
4510-20	50 50	Sandstone as above Shale, lt-dk br, well lamini. - massive, silty, mica, very carbonaceous w/ coaly streaks		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

29th April 1970.

Company: Woodside Oil N.L.

Well: Salt Lake No 1

Depth Interval	%	Lithologic Description	Porosity	Remarks
4526-30	70	Sandstone, wh, cgs, poor std, subang - subrd loose qtz sand.	v. high	No shows
	20	Shale, hb, lamin, mica, silty v. carb.	913534	054
	10	Coal, bk-dk bn, silty, brittle		
4530-40	70	Sandstone as above		
	30	Shale as above		
4540-50	80	Sandstone as above, rd - subrd		
	10	Shale as above		
	10	Coal bk and minor pebbles of qtzite		
4550-60	100	Sandstone as above		
4560-70 26	90	Sandstone - dom. clay, milky. wht, crs. - v. crs. s/nd, s/ang. qtz grains, moderately well sorted. No fluorescence, no gas kick,		poor porosity.
	5	CLAY, Brn, ozy		
	5	COAL, Rk brn, blk, soft		
		Tr. Pyrite nodules & aggregates.		
4570-80 (25 min)	100	Sandstone - dom. med - crs. gra. Occ. pyrite grains. No coal.		
4580-90 (13 min)	100	Sandstone - as above.		
4590-4600 (18 min)	100	Sandstone - as above		
4600-10 (18)	95	Sandstone } as above ± tr. of weathered feldspars.		
	5	Coal		
4610-20 (22)	100	Sandstone - as above, ± tr. of coal.		
4620-30 (25 min)	100	Sandstone - as above.		
4630-40 (27 min)	100	Sandstone - as above.		
4640-50 (25 min)	100	Sandstone - as above.		
4650-60 (27 min)	100	Sandstone - as above, tr. v. crs. & granule sized qtz sand. Still pyritic in pt.		
4660-70 28 min	100	Sandstone - as above. ± trace of coal.		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

012534 055

29th April 1970.

Company: Woodside Oil N. L.

Well: Salt Lake N° 1.

Depth Interval	%	Lithologic Description	Porosity	Remarks
4670-80 (35 min.)	80	Sandstone, massive consolidated, compr. dom. crs. ls vcrs. (rare granule sized) s/lang, s/rnd. slg. grains, poorly sorted. Poor porosity.		
	10	Bn. clay, sticky, soft.		
	10	Coal, blk, bn, recovered as chips, fragile		
		Drip out for bit change.		
4680-90	70	Sandstone, loose unconsol. w/ qtz sand coarse gr s/lang - s/sd as above		
	20	Coal bk, dirty, soft - brittle w/ conc. part grading into		
	10	Shale bn-dk bn, v. carb w/ conly streaks, imp. lamina silty & mica.		
4690-4700	80	Sandstone as above		
	20	Shale H bn, v. carb as above Tr. coal, pyr w/ fossilif, glauc. l/s (Lycopodium l/s carings ??)		
4700-10	90	Sandstone as above		
	10	Coal & carb. shale		
4710-20	40	Sandstone as above		
	60	Highly altered rock - mostly chlorite and zeolite w/ abundant limonite and pyrite. Probably weathered basalt of Childer's Formation		
4720-30 (95 min)	90	Olivine basalt, greenish black, olivine phenocrysts, pyroxene - amphibole grd. mass. Slightly weathered in pt. occ. limonite flakes, Kaolinitic in pt.		
	10	Qtz, up to granule sized, milky white, cldy, mostly subangular, strongly pyritic, with inclusions of quartz.		
		Tr. clays, brownish white, soft, plastic.		
		4735' 95% Olivine basalt. 5% Qtz, dom. v. crs. to crs. grd. Less pyritic		
4730-40 100 mins	95	Olivine basalt, dom. olivine phenocrysts and pyroxene - amphibole fine grd. ground mass. Sl. limonitic, only sl. weathered.		
	5	Qtz, milky wht. cldy, vcrs. to crs. grd. occ. nodules of pyrites. Tr. calcite?		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

913534 056

30th. April 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake N°1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
		4745' 100% Olivine basalt. Greenish black, dense unweathered. Green olivine phenocrysts and black, dense fine grained ground mass. Occ. limonite flakes, nodules of pyrite with inclusions of qtz. grains. Kaolinitic in pt., tr. qtz infilling, random milky wht., clay v. cr. qtz.		
4740-50 (130 mins)	100	Olivine basalt, as above. occasionally kaolinitic with less qtz. fractions.		
		4755' 100% Olivine basalt with increase in olivine content. More kaolinitic than sample above. Tr. qtz fractions. Relative increase in limonitic particles.		
4750-60 (57 mins)	50	Olivine basalt, as above, str. weathered in places, exposing the olivine as discrete crystals / aggregates. Occ. pyritic.		
	50	CLAY, grey to buff coloured, firm, does not wash away readily too easily.		
		4765' 75% Olivine basalt } as above. 25% clay		
4760-70 (78 mins)	90	Olivine basalt, as above, strongly kaolinitic Occ. calcitic vein, rare pyrite!		
	10	clay. - as above.		
4770-80	100	Olivine basalt as above		
4780-90	100	Olivine basalt as above 50% fresh 50% altered		
4790-4800	70	Basalt as above mostly altered to clonite + zeolites		
	30	Clay grey-green, soft, washes away.		
4800-10	50	Basalt as above all altered		
	50	Clay perhaps Tuff, brown, soft, some glassy material visible		
4810-20	30	Basalt as above, altered		
	70	Sandstone wh, coarse gr, poorly std, subang- sd loose qtz sand. Latrobe Valley Coal measures lithology		

DRILL CUTTINGS SAMPLE DESCRIPTIONS 34 057

1-5-70

Company: *Woodside Oil N.L.* Well: *Salt Lake No 1*

Depth Interval	%	Lithologic Description	Porosity	Remarks
4820-30	30	Olivine Basalt green & black altered to chlorite & zeolite		
	30	Sandstone wh, coarse gr, subang-rd loose of B sand		
	40	Mudstone brown silty mica & very carbonaceous		
	Tr	Coal black brittle		
4830-40	30	Mudstone brown silty mica carbonaceous		
	70	Sandstone coarse loose sand as above		
	Tr	Basalt as above		
4840-50	70	CLAY, buff coloured, to yellow, sticky dense firm difficult to wash away, probable weathered product of basalt.		
	20	Olivine-basalt, black and greenish black, olivine phenocrysts have been variably weathered str. kaolinitic elsewhere.		
	10	Sandstone, pale grey comprising milky wh to clay, v. crs. gr. of, s/rd, s/ang, poorly sorted with prominent pyrite nodules.		N. shows No fluor.
	Tr.	Calcite and limonite.		
4850-60	40	Clay - as above.		
	(35mm) 50	Sandstone, as above, poor porosity. No shows and no fluorescence.		
	10	Basalt. - as above. Tr. olivine, plagioclase		
4860-70	10	Clay as above.		milky wht.
	(43mm) 80	Sandstone as above with abund. crs. to v. crs. and granule sized of. poorly sorted, no fluor no. shows.		
	10	Basalt as above with small grains of olivine and plagioclase aggregates often weathered Tr. pyrite.		
4870-80	10	Clay - as above.		
	(55mm) 80	Sandstone - dom. v. crs. to ^{crs.} gr. mod. well sorted, no shows, no fluor.		
	10	Basalt, strongly weathered, grey, aphanitic weathered feldspers (plagioclase) str. kaolinitic, exposed olivine phenocrysts.		
4880-90	10	Clay - as above.		
	(55mm) 70	Sandstone - as above, tr. ferruginised of. gr.		
	20	Basalt, as above, but fresh (unweathered)		
4890-4900	90	Sandstone as above		
	10	Basalt as above fresh		

DRILL CUTTINGS SAMPLE DESCRIPTIONS 34 058

1st May

Company: Woodside Oil NL.

Well: Salt Lake No 1

Depth Interval	%	Lithologic Description	Porosity	Remarks
4900-10	50	Sandstone wh, coarse gr, subang-rd loose gtz, sd		
	50	Basalt Black green & whitish, fresh to altered, w/ distinct flow banding		some
4910-20	90	Sand & Gravel wh, vc gr, subang-rd	High	Unconsol.
	10	Basalt as above		
4920-30	100	Sand & Gravel as above Tr Basalt		
4930-40	100	Sand & Gravel as above "		No flow.
4940-50	100	Sand & Gravel as above	High	No shows
4950-60	100	Sand & Gravel as above Tr pyrite & basalt		
(5m)				
4960-70	60	Basalt green & black probably cavings		
(40)	40	Sand & Gravel as above		
4970-80	100	Sand & Gravel as above Tr Basalt.		
(40)				
4980-90	70	Sand & Gravel as above		
(42)	20	Coal black, brittle Tr Clay, brown		
	10	Basalt green, altered to chlorite.		
4990-5000	80	Sand & Gravel as above		
(28)	10	Coal black brittle w/ tr brown, carb. clay		
	10	Basalt 'green & altered' as above		
5000-10	70	Sand & Gravel as above		
(42)	30	Basalt green & altered as above		
5010-20	50	Sand & Gravel as above		
(45)	20	Coal black brittle		
	10	Mudstone, brown, soft, silty, carbonaceous		
	20	Basalt green as above		
5020-30	40	Sandstone, pale grey, compr. med. to cr. grad. s/rd gtz, good sorting, fair porosity no shows, no flow.		
(63)				
	40	Basalt, olivine phenocrysts, part weathered weathered plagioclase prominent.		
	20	Clay, dk. brn. soft, puffy.		
5030-40	40	Sandstone } as above. Tr. pyrite.		
	40	Basalt }		
	20	Clays }		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

2nd May 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake N°1.*

Depth Interval	%	Lithologic Description	Porosity	Remarks
5040-50	60	Clay, dk. brn, sticky soft.	013584	CEL
		40 20 Sandstone, as above.		
		20 Basalt, as above, Abundant weathered olivine		
		Tr. pyrite with st. inclusions		
		Dec. st. strongly ferruginised		
		Siltstone, dk. brn, mic. in pt, st. argill.		
		in pt.		
		CHANGE TO BIT # 19.		
5050-60 (50min)	75	Gravelly sst, pale grey to wht., moderately well consolidated, comp. crs. to v. crs. mucky silt. + sl. clay. spongy st. fair sorting, occ. pyritic. poor to nil porosity. No show or fluorescence.		
		25 Olivine basalt, strongly weathered in places		
		5 clays - probable weathered product of basalt.		
		Tr. coal, black vitreous, soft, brittle.		
5060-70 (18min)	100	Gravelly sandstone, as above with occasional granule sized st. fragments. Often pyritic.		
		Tr. basalt,		
5070-80 (30min)	100	Sandstone, as above, comprising dom. med - crs. grd, spongy, st. Occ. pyritic.		
5080-90 (23)	100	Sandstone, pale grey, poorly consolidated abund. med to crs. grd, ang, spongy, med. well sorted, fair porosity. No fluorescence; no "g.k"		
		Tr. Olivine, weathered basalt, pyrite.		
5090-5100 (31)	100%	Sand & gravel wh, v. coarse gr, spongy - rd, inconsol.	High	No shows or fluorescence
5100-10	100	Sand & gravel as above		
		Tr. Basalt & coal		
5110-20	100	Sandstone wh coarse grained as above		
		Tr. Coal black brittle		
5120-30	100	Sandstone as above w/ tr coal		
5130-40	100	Sandstone as above w/ tr basalt		
5140-50	70	Sandstone as above w/ tr basalt		
	30	Coal black brittle.		

[Signature] Geolog

DRILL CUTTINGS SAMPLE DESCRIPTIONS

3rd May

Company: Woodside Oil NL

Well: Salt Lake No 1

Depth Interval	%	Lithologic Description	Porosity	Remarks
5150-60	50	Sandstone wh coarse gr, subang - rd, loose	High	No shows of fluorescence
	50	Coal dk br - bk, brittle		
5160-70	50	Sandstone as above	913534	060
	50	Coal as above Tr Basalt		
5170-80 (45)	90	Sandstone, pale grey, dom. v-fn grad ls med. also crs. subang, med. well sorted. poor to fair ϕ , no fluor, no gas kicks.		
	10	Coal - black, brittle, soft * A large percentage of the v-fn to fn grad. ϕ is passing thru the shaker into the mud tanks.		
5180-90 (25)	90	Sandstone } as above. Tr. shaly.		
	10	Coal		
5190-5200 (40)	75%	Sandstone, pale brn, well consolidated, mic. in pt. well cemented, karst. in pt. no porosity. Sandstone pale grey, loosely cemented. comp. v-fn to crs. gr. ϕ sd. mod. well sorted, some porosity no fluor. or gas kicks		
	25	Coal, black, brittle, soft. Abundant pyrite, Id. as nodules + aggregates. Weathered olive basalt, limonitic fragments. Tr. siltstone, pale grad. micromic, sandy in pt.		
5200-10 (40)	75	Sandstone - as above. less pyritic.		
	75	Coal, black, brittle.		
5210-20 (60)	50	Sandstone, pale grey, crs. ls med. grad, mod. well cemented, good porosity.		
	50	Coal as above. Small amts. of buff coloured, fragments, affected by acid, calcite, dolomite? Minor olive basalts, random pyrite.		
5220-30 (40 min)	50	Sandstone - as above. with minor granule sized ϕ also milky wht. ϕ . Small amts. of dolomite? Str. calcareous.		
	50	Coal as above. Tr. Pyrite, siltstone including pale brn to grey varieties. Micromic, sandy in pt. Minor weathered plagioclase		

DRILL CUTTINGS SAMPLE DESCRIPTIONS 061

3rd May 1970

Company: *Woodside Oil N.L.*

Well: *Salt Lake No 1*

Depth Interval	%	Lithologic Description	Porosity	Remarks
5230-40 (50)	50	Sandstone, pale grey variety, well str. sil, micronic pale colorless variety, poorly consolid. comp. v. ft. to crs. grad. s'lang of some porosity. very calcareous. also ^{calcite} (dolomite) component.		
	50	Coal - blk to dk. brn, earthy brittle.		
5240-50 (60)	25	Sandstone, pale grey, well consolid. str. sil. in pt., kaol. in pt., with dk. grn lith. inclusions abundant milky wht to colorless crs to med. grad. s'lang of Moderately well srted, poor porosity no fluor. or fluorescence.		
	75	Coal, blk, massive, vitreous		
5250-60 65	60	Coal, as above.		
	25	Sandstone dom. colorless to pale grey, loosely consolidated, comprise ft. to crs. grad. s'lang, s'rud, poorly srted, poor porosity no fluor, no gas kicks. Minor pale brn, est, mic, str. sil, sl. kaol., occ. calcareous. no porosity.		
	15	Weathered olivine basalt, showing streaks of weathered plagioclase (buff colored) and weathered olivine.		
	Tr	Siltstone, dk. grey to pale brn, argill. in pt., mic., carbonaceous streaks., kaol. in pt. Pyrite aggregates, limonitic fragment occ. prunginised of grains.		
5260-70	75	Coal } as above. Occ. calcareous.		
	25	Sandstone } Str. calcareous. (Calcite?) Tr. pyrite, less limonitic frags. minor clays.		
5270 5270-80	75	Coal } as above.		
	25	Sandstone }		
5280-90	80	Coal as above		
	10	Sandstone f-mgr white calc clayey, lithic	Tight	
	10	Siltstone, gy-br, carb, mica		
5290-5300	(20)	Sand qtzose loose gas mgr		Casing
	(30)	Siltstone gy carb mica		
	(50)	Sandstone gy f-mgr calc lithic w/ cherty grains		

DRILL CUTTINGS SAMPLE DESCRIPTIONS

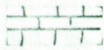
4th May

Company: Woodside Oil N.L.

Well: Salt Lake No 1

Depth Interval	%	Lithologic Description	Porosity	Remarks
5300-10	30	Siltstone gy, mica, carb	310001 002	
	60	Sandstone, gy, f-mg, lithic, v. calc, clayey, dirty frags	Tight	
	10	Sand w/ loose gtz, granic		Cavings
5310-20	90	Sandstone f-mg as above	Tight	
	10	Sand loose gtzose as above		Cavings
5320-30	90	f-mg Sandstone as above	Tight	
	10	Sand a/a		Cavings
5330-40	90	Sandstone f-mg as above	Tight	Frable
	10	Sand a/a		Cavings
5340-50	70	Sandstone f-mg as above	Tight	Frable
	20	Siltstone, green, mica		
	10	Sand a/a to coal		Cavings
5350-60	80	Sandstone, greenish grey, well consolid, f. grad, sil., str. kcal, feldspathic, mic. in pt. v. str. calcareous, friable, tight, no porosity.		
	20	Siltstone carbonaceous in pt. Abund loose cr. g. g. g.		
	20	Siltstone, grey, sandy in pt., carbonaceous, micromaceous		
5360-70	60	Sandstone as above		
	40	Siltstone - as above. sample very clayey.		
5370-80	50	Sandstone } as above		
	50	Siltstone }		
5380-90	50	Sandstone } as above.		
	50	Siltstone }		
5390-95	60	Sandstone } as above but sample		
	40	Siltstone } less clayey		
		T. D. DRILLER	5395'	
			5395'	

PROGRESS STRIP LOG

 LIMESTONE

COMPANY

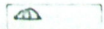
WOODSIDE (L.F.) N.L.

 BRYOZOA
 FORAMINIFERA

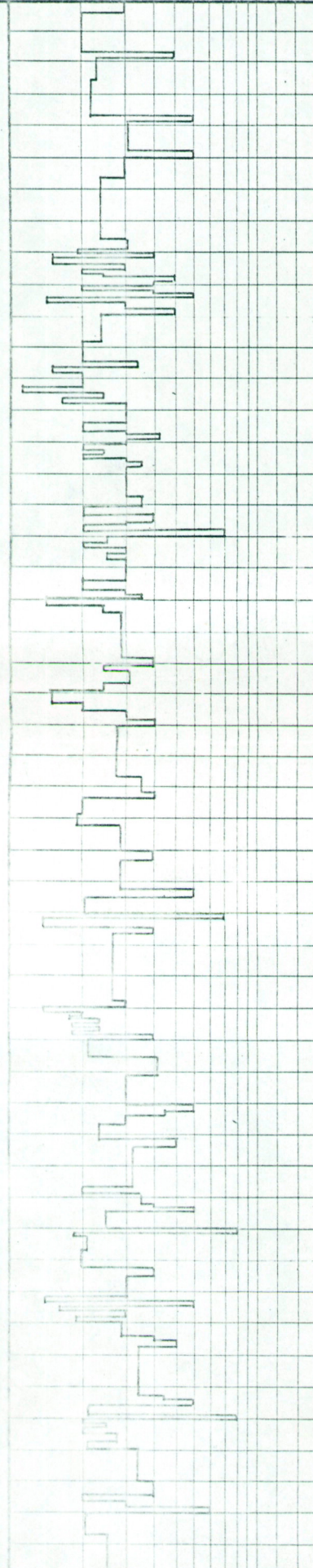




PELECY PODS

WELL NAME

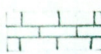
SALT LAKE N° 1

 ECHINOIDS

913534 064

BIT DATA	DRILLING RATE	DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	D.S.T. DATA	GAS DETECTOR	DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY
	FEET PER HOUR 6.0 30 20 15 10 7.5 6 5 4 3 MINUTES PER FOOT 2 3 4 5 6 8 10 12 15					25 50 75			
BIT #1 REED Y-3-R 12 1/4"							600' 700' 800' 900' 1000'		<p><i>clayey calcarenite</i></p> <p>GRNSTM, VERY LT BRN, MED-CRS GRN, POOR SORTING, ANGULAR GRNS. Y  ECHINODERMS. POROSITY GOOD.</p> <p><i>clayey calcarenite (packst.)</i></p> <p>PACKSTONE, LIGHT BROWN, SOFT, HOMOGENEOUS; MED-COARSE GRAINED, ANGULAR, POORLY SORTED. Y  LIGHTITE. OCCASIONAL BEDS OF COQUINA.</p> <p><i>Sandst.</i></p> <p><i>Sandstone</i></p> <p>GRANSTONE, LIGHT GREY, SOFT, HOMOGENEOUS, FINE-MED. GRAINED, POORLY SORTED ANGULAR FOSSIL FRAGMENTS. Y </p>

PROGRESS STRIP LOG

 LIMESTONE

 MARL


 PELECYPODS BRYOZOA
 FORAMINIFERA

COMPANY WOODSIDE (L.E.) NL.

WELL NAME SALT LAKE N° 1

BIT DATA	DRILLING RATE <small>FEET PER HOUR</small> 6.0 30 20 15 10 7.5 6 5 4 3 <small>MINUTES PER FOOT</small> 1 2 3 4 5 6 8 10 12 15	DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	D.S.T. DATA	GAS DETECTOR 25 50 75	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY
BIT #1 REED YT3-R 12 1/4"							100' 1100' 1200' 1300' 1400' 1500'	OCCASIONALLY COQUINITIC, SLIGHTLY PYRITIC, FERRUGINOUS. MARL, LIGHT GREY, WITH SOME GRAINSTONE (INTERBEDDED?). GRAINSTONE WITH MINOR MARL MARL, PALE GREY, SOFT, WITH FINE-MEDIUM SIZED QUARTZ SAND AND SHELL FRAGMENTS, POORLY SORTED, SUB-ROUNDED. MARL, SLIGHTLY FOSSILIFEROUS, LIGHT BROWN V.F.G. POSSIBLY WITH FOSSILIFEROUS INTER BEDS.

PROGRESS STRIP LOG

MARL

COMPANY WOODSIDE (L.E.) N.L.


MARLY LIMESTONE

WELL NAME SALT LAKE No 1

FORAMINIFERA
 BRYOZOA

BIT DATA	DRILLING RATE		DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	GAS DETECTOR			DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY				
	FEET PER HOUR														
	60	30				20	15	10				7.5	6	5	4
MINUTES PER FOOT															
	2	3	4	5	6	8	10	12	15	25	50	75			
BIT #2 REED YT3-R 12 1/4"										1600'	MARL, SLIGHTLY FOSSILIFEROUS, LIGHT BROWN, U.F.G.R., WITH INTERBADS OF PACKSTONE?				
										1700'	GRAINSTONE, LIGHT-MEDIUM BROWN SLIGHTLY CEMENTED, HOMOGENEOUS; FINE GRAINED, ANGULAR, POORLY SORTED FOSSIL FRAGMENTS, WITH INTERBADS OF MARL. CALCARENITE				
										1800'	MARL, MARLY LIMESTONE, AND GRAINSTONE; INTERBADS.				
										1900'	MARLY LIMESTONE SLIGHTLY CRISTIC, PALE GREY, HARD, FOSSILIFEROUS IN PARTS, GAUCONITIC. CALCARENITE				
										2000'	FOSSILIFEROUS MARLY LST, PALE GREY TO GREY, POORLY CONSOLIDATED, GAUCONITIC, SOME QTZ SAND.				


PROGRESS STRIP LOG

 MARL

 SANDSTONE

COMPANY

WOODSIDE (L.E.) N.L.

 LIMESTONE

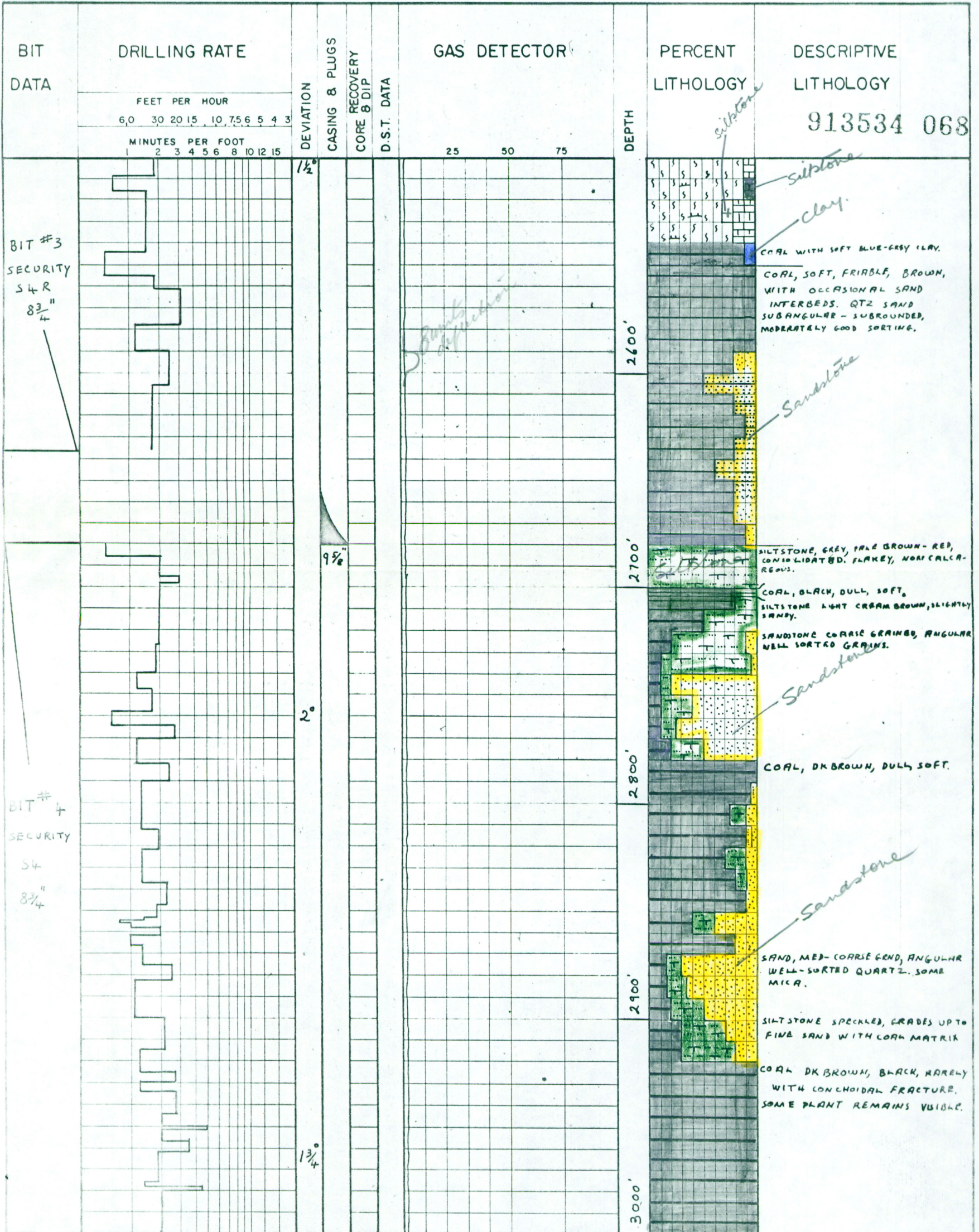
 COAL

WELL NAME

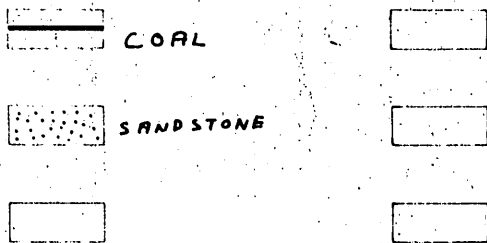
SALT LAKE N°1

 CLAY

 SILTSTONE



PROGRESS STRIP LOG



COMPANY WOODSIDE (L.E.) N.L.

WELL NAME SALT LAKE #1

BIT DATA	DRILLING RATE		DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	D.S.T. DATA	GAS DETECTOR			DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY
	FEET PER HOUR						25	50	75			
	6.0	30 20 15 10 7.5 6 5 4 3										
MINUTES PER FOOT												
2 3 4 5 6 8 10 12 15												
BIT #4 SECURITY S4 8 3/4"			1 3/4"				10 min of production			3100'		COAL, DARK BROWN-BLACK, SOFT-FIRM, V.F.G. SAND: QUARTZ, MED. GR., MOD. SORTED, ANGULAR. OCCASIONALLY "BOOKS" OF MICA PRESENT (LOST CIRC. MATERIAL)
BIT #5 GLOBE MHV-3 8 3/4"										3200'		COAL, DARK BROWN, SOFT, BRITTLE, VERY FINE GRAINED.
										3300'		COAL AS ABOVE SANDSTONE, QTZ GR. CLEAR, MED-COARSE GR., ANG-S. ANG. MODERATELY SORTED
										3400'		AS ABOVE. RARE FRAGMENTS OF GLAUCONITIC QTZ SANDSTONE.
										3500'		SANDSTONE: POORLY CONSOLIDATED, QUARTZ GRAINS POORLY TO MODERATELY WELL SORTED, ANGULAR TO SUBANGULAR, OCCASIONALLY SUB ROUNDED
										3500'		COAL: DARK BROWN, FRIABLE, PLANT FRAGMENTS. SANDSTONE, GRANULE SIZED
										3500'		
										3500'		
										3500'		
										3500'		
3500'												

PROGRESS STRIP LOG

COAL

SANDSTONE

CLAY

COMPANY WOODSIDE (L.E.) N.L.

WELL NAME SALT LAKE #1

BIT DATA	DRILLING RATE										DEVIATION	CASING & PLUGS	CORE RECOVERY & DIP	D.S.T. DATA	GAS DETECTOR			DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY																
	FEET PER HOUR														25						50			75												
	MINUTES PER FOOT														2						3			4			5			6			8			10
BIT # 7 REED. YMG-J 8 3/4"											1 1/2°							3600'											SANDSTONE: COARSE GRAINED ANGULAR-SUBANGULAR, POORLY SORTED QUARTZ FRAGMENTS, CEMENT NOT KNOWN. COAL: SOFT, DARK BROWN, FRAGILE							
BIT # 8 REED YMG-J 8 3/4"																														3/4°						
BIT # 9 LOBE MHV-3 8 3/4"	2°							3800'											SANDSTONE: QUARTZ GRANULES, GRADING TO VERY FINE SAND, PYRITIC.																	
BIT # 10 LOBE MHV-3 8 3/4"																				2°							3900'									
BIT # 11 LOBE MHV-3 8 3/4"	2°							4000'																												

PROGRESS STRIP LOG

COMPANY Woodside Oil N.L.

WELL NAME Salt Lake No. 1

BIT DATA	DRILLING RATE												DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	D.S.T. DATA	GAS DETECTOR			DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY															
	FEET PER HOUR																25						50			75											
	MINUTES PER FOOT																1						2			3											
⑩																							4000		<p><u>Sandstone</u>, wh, coarse gr, poorly std, subang-subrd, loose qtz sand.</p> <p><u>Clay</u>, wh-ltgy, soft, silty.</p>												
⑪																											4100		<p><u>Sandstone</u> a.a.</p>								
⑫													1 3/4°															4200		<p><u>Coal</u> dk bn-bk, soft, silty, w/ conchoidal fracture.</p>							
⑬																															4300		<p><u>Sandstone</u>, wh, coarse gr-congl, poorly std, subang-subrd, loose, qtz sand.</p>				
⑭													1 1/4°																			4400					
⑮																																			4500		

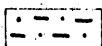
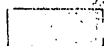
PROGRESS STRIP LOG

COMPANY Woodside Oil N.L.

WELL NAME Salt Lake No1

BIT DATA	DRILLING RATE		DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	D.S.T. DATA	GAS DETECTOR			DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY																					
	FEET PER HOUR						25	50	75																								
	6.0	30 20 15 10 7.5 6 5 4 3																															
MINUTES PER FOOT																																	
2 3 4 5 6 8 10 12 15																																	
(13) H.T.C. OWV-J 8 1/2 hrs										4500	Shale, Hbn, lamin, silty, mica, v. carb. w/coaly streaks																						
8 5/8" (14) H.T.C. OWV-J 5 1/4 hrs														4600	Sandstone, wh, coarse gr - congl, poor std, subang-subrd, loose qtz ind.																		
8 5/8" (15) H.T.C. OWV-J 5 hr																		4700	Weathered Basalt highly altered, sericite & chlorite w/ limonite & pyrite.														
8 5/8" (16) H.T.C. OWV-J 8 hr																						4800	Clay, brown, soft Olivine Basalt black & green, w/ phenocrysts of olivine & pyroxene in groundmass plag. laths										
8 5/8" (17) Smith T2H-J 14 1/4 hr																										4900	Sandstone wh, coarse gr, md std, subang-rd, loose qtz grains. Shale brown, silty, v. carbonaceous						
8 5/8" (18) Smith T2H-J																														5000	Sand & Gravel wh, v. coarse gr, subang-nd unconsol. qtzose.		

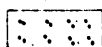
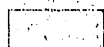
PROGRESS STRIP LOG



Sandstone, gy, fmg
lithic, calc., tight

COMPANY

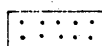
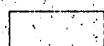
Woodside Oil N.L.



Siltstone, gn, mica
carb.

WELL NAME

Salt Lake No 1



Sand wh, cgr,
loose g₃.

BIT DATA	DRILLING RATE		DEVIATION	CASING & PLUGS	RECOVERY CORE & DIP	D.S.T. DATA	GAS DETECTOR			DEPTH	PERCENT LITHOLOGY	DESCRIPTIVE LITHOLOGY	
	FEET PER HOUR						25	50	75				
	MINUTES PER FOOT												
	6.0	30 20 15 10 7.5 6 5 4 3										913534 073	
	1	2 3 4 5 6 8 10 12 15											
(18) Smith T2HJ 12 3/4 hrs			130 4							5000		Clay, brown, soft, carbonaceous Sand & Gravel, white, coarse gr, subang-rd, unconsolidated.	
(19) 8 1/2" Reed YMG-J 8 3/4 hrs											5100		Coal, bk, brittle
(20) 8 1/2" Reed YMG-J 12 1/4 hr											5200		Sandstone, wh, c-gr, unconsol.
(21) 8 1/2" Reed YMG-J 9 1/2 hrs											5300		Coal, bk, brittle Siltstone gy, v. mica, carb., Sandstone gy, fmg, lithic calc., tight STRZELECKI GROUP
										5400		T.D. 5395	
										5500			

SIDEWALL CORE DESCRIPTIONS

Numbers Taken: 21

Number Recovered: 17

<u>No.</u>	<u>Depth</u>	<u>Recovery</u>	<u>Lithology</u>	<u>Fluorescence</u>
1	5323	1"	<u>Sandstone</u> , gy, gn, v.f.gr., lithic, feld., in kaolin - sl. calc. matrix. Tight.	None
2	5306	$\frac{3}{4}$ "	<u>Sandstone</u> , gy, gn, m. gr., lithic, v. feld, in kaolin - calc. matrix. Tight.	None
3	5259	1"	<u>Mudstone</u> , lt bn, silty, mica, massive.	None
4	5216	$\frac{3}{4}$ "	<u>Mudstone</u> , lt gn, silty, mica, massive, very calc.	None
5	5200	1"	<u>Mudstone</u> , lt bn, silty, mica, massive, sl. calc.	None
6	5173	1"	<u>Siltstone</u> , lt bn, sandy, mica, massive.	None
7	5165	1"	<u>Siltstone</u> , lt bn, mica, carb., massive.	None
8	5139	0	No recovery.	
9	5104	$\frac{3}{4}$ "	<u>Sandstone</u> , white, f-m gr. qtzose poorly std, with subang-subrd in clay matrix. Friable. Porous.	None
10	5055	$\frac{1}{4}$ "	<u>Sandstone</u> , wh, m-c gr, qtzose, poorly std, with clay matrix. Friable, porous.	Faint, spotty
11	5040	0	No recovery.	
12	5000	1 $\frac{1}{4}$ "	<u>Sandstone</u> as in no. 10	Faint, spotty
13	4900	1 $\frac{1}{4}$ "	<u>Sandstone</u> , wh, v.c. gr-gritty, qtzose, poorly std. in clayey, sl. calc. matrix. Friable. Porous	Dull, patchy
14	4876	1 $\frac{1}{4}$ "	<u>Sandstone</u> as in no. 13	Dull, patchy
15	4840	1 $\frac{3}{4}$ "	<u>Tuff(?)</u> gy. gn, soft, massive, blocky fracture with sil, patches, poss. glass shards.	None
16	4785	1 $\frac{3}{4}$ "	<u>Weathered Basalt</u> , gn. sl. calc alt. to $\frac{1}{2}$ vugs of chlorite & zeolite. Plag. laths visible.	None
17	4745	0	No recovery.	
18	4680	$\frac{3}{8}$ "	<u>Siltstone</u> , lt bn. mica, massive, sl. carb.	None
19	4244	1 $\frac{1}{4}$ "	<u>Sandstone</u> , gy, f-c gr, poorly std, qtzose, feld, with subang - subrd in clay, sl carb. matrix. Friable. Poor porosity.	None
20	3914	1 $\frac{1}{4}$ "	<u>Siltstone</u> , wh, mass. qtzose, mica	None
21	3465	0	No recovery.	

WOODSIDE OIL N.L.

SALT LAKE No 1

SIDEWALL CORE DESCRIPTIONS

Number Taken

21

Number Recovered

17

No.	DEPTH	RECOVERY	LITHOLOGY	FLUORESCENCE
1.	5323	1"	Sandstone gy, gm, v.f. gr., lithic, feld, in kaolin - sl. calc. matrix. Tight	None
2.	5306	3/4"	Sandstone gy gm, m. gr., lithic, v. feld, in kaolin - calc. matrix. Tight	None
3.	5259	1"	Mudstone lt. bn, silty, mica, massive	None
4.	5216	1/2"	Mudstone lt gm, silty, mica, massive, v. calc.	None
5.	5200	1"	Mudstone lt bn, silty, mica, massive, sl. calc.	None
6.	5173	1"	Siltstone lt bn, sandy, mica, massive	None
7.	5165	1"	Siltstone lt bn, mica, carb., massive	None
8.	5139	0	No Recovery	
9.	5104	3/4"	Sandstone wh, f-gr, qtzose, poorly std w/ subang-subrd in clay matrix. Friable, porous	None
10.	5055	1/4"	Sandstone wh, m-cgr, qtzose, poorly std w/ clay matrix. Friable, porous	Faint, spotty
11.	5040	0	No Recovery	
12.	5000	1/4"	Sandstone as in no. 10	Faint, spotty
13.	4900	1/4"	Sandstone wh, v.c. gr - gritty, qtzose, poorly std in clayey, sl. calc. matrix. Friable, porous	Dull, patchy
14.	4876	1/4"	Sandstone as in no. 13	Dull, patchy
15.	4840	1 3/4	Tuff (?) gy gm, soft, massive, blocky fracture w/ siliceous patches possibly, glass shards	None
16.	4785	1 3/4"	Weathered Basalt, gm, sl. calc, alteration to 4 ungr of chlorite + zeolite. Pleg. lathr visible.	None
17.	4745	0	No Recovery	
18.	4680	3/4"	Siltstone, lt bn, mica, massive, sl. carb.	None
19.	4244	1 1/4"	Sandstone gy, f-cgr, poorly std, qtzose - feldsp w/ subang-subrd in clay - sl. carb. matrix Friable, poor porosity	None
20.	3914	1/4"	Siltstone, wh, massive, qtzose, mica	None
21.	3465	0	No Recovery	

Woodside Oil Salt Lake No 1
Weekly Report

8 am Saturday 2nd May

- 3650 - 3680 50% Sandstone, white, coarse grained,
subang - rounded, loose qtz grains.
50% Coal, black, brittle
- 3680 - 3710 50% Clay, light brown - buff, soft
50% Sandstone as above
- 3710 - 4240 90% Sandstone as above
10% Coal and Clay as above
- 4240 - 4330 80% Coal as above
20% Sandstone as above
- 4330 - 4710 100% Sandstone as above w/ minor
coal and clay
- 4710 - 4810 90% Olivine Basalt black & green, highly
altered in part to chlorite & goethite
10% Clay or Tuff brown, soft
- 4810 - 4910 70% Sandstone as above
20% Shale, brown, silty, carbonaceous
10% Basalt as above
- 4910 - 5020 100% Sand & gravel, white very coarse
grained, subang - rounded, qtzose.
Minor coal & basalt

Weekly Report (cont.)

2nd May

Remarks: At 4710 there is a formation change from the sands and coal of the Latrobe Valley Coal measures to the weathered basalts of the Childers Formation.

At 4810, a sand section was encountered below the basalt but there were no shows or fluorescence associated with these sands.

The section is continuing in the sands & gravels of the Childers Formation.

B. Warriss

Wellbore Geologist

2/My/1970

Woodside (L. E.) N.L.

Salt Lake #1

Weekly Geological Report to 8 AM 26th APRIL.

- 2680 - 2740 Siltstone, gray and light brown, red, laminated, non-calcareous with interbedded coal bands.
- 2740 - 2780 Sandstone with coal and siltstone interbeds.
- 2780 - 2850 Coal, dark brown, soft, friable with minor interbeds of sand and silt.
- 2850 - 2920 Siltstone, very fine grained, dark brown - grey, strongly carbonaceous, with interbeds of coal and sand.
- 2920 - 3370 Coal with some small quantities of sand in the lower 200 feet.
- 3370 - 3390 Sandstone, quartz grains, medium to fine-grained, moderately sorted, angular - subangular with rare glauconite-rich chips of sandstone.
- 3390 - 3457 Sandstone as above with some gravel, small quantities of coal ore also present.
- 3457 - 3466 brassy sandstone.
- 3466 - 3570 Coal with subordinate sandstone.
- 3550 - 3610 Dominantly sandstone, tending to granule conglomerate near base.
- 3610 - 3680 Coal with sandiness increasing down-hole lower 10' with clay.

3680-3690 Clay, pale brown, very soft.

3690-3870 Sandstone as quartz gravel conglomerate with minor amounts of coal and clay.

bed by. halibone

Well site - g. coburn

Woodside (L.F.) N.L.

Salt Lake # 1

Weekly Geological Report to Apr. 19th April, 1970.

- 0 - 350' No samples taken.
- 350 - 390' Marl, medium grey, soft; with poorly sorted, angular, frosted quartz grains. Interbedded with thin beds of richly fossiliferous limestone, fossils: *Pelecypods* and *Foraminifers*. Porosity low to moderate.
- 390 - 540' Packstone, light grey to brown, soft; heterogeneous texture; fine to medium grained, poorly sorted, and angular to subangular grains of fossil fragments. Fossils: *Pelecypods*, *Gastropods*, *Bryozoa*. Slightly glauconitic throughout. Porosity good.
- 540 - 590' Grainstone, very light brown, heterogeneous texture; medium to coarse grained, poorly sorted angular grains. Fossils: *Bryozoa*, *Foraminifera*, *Echinodermata*, *Pelecypods*. Porosity good.
- 590 - ~~960~~ 960' Packstone, light brown, soft, homogeneous texture; medium to coarse grained, angular, poorly sorted. Fossils: *Bryozoa*, *Pelecypods*, *Foraminifera*, *Echinoderms*, some lignitic fragments. Occasional interbeds of ^{Coquina's} shell fragments.
- 960 - 1210' Grainstone, light grey, soft; homogeneous, fine-medium grained, angular fossil fragments. Fossils: *Bryozoa*, *Foraminifera*, *Pelecypods*. Glauconite and pyrite present as trace.
- 1210 - 1240' Marl, light grey, with traces of grainstone.

1230 - 1240 grainstone as before.

1240 - 1260 Packstone, pale grey, soft, poorly sorted, angular fragments of fossils. Slightly marly in places.

¹²⁶⁰
~~1270~~ - 1350 Marl pale grey, soft, sandy in patches, with about 10% or less of fine-medium grained fossil fragments, and quartz grains, poorly sorted, medium to coarse grained, sub-rounded to rounded.

1350 - 1610 Marl, slightly fossiliferous, light brown, very fine grained, with packstone interbeds?

1610 - 1700 grainstone, light-medium grey, brown, slightly cemented, homogeneous texture, fine grained, angular, poorly sorted. Fossils: Bryozoa, Foraminifera; with some quartz and glauconite grains.

1700 - 2050 Marl and grainstone, generally in proportions 90%, 10% respectively.

2050 - 2224 Marl, grey, soft.

2224 - 2240 Hard, mottled medium grey clay.

2240 - 2330 Marl, green, slightly sandy, pyritic.

2330 - 2430 Marl and limestone (grainstone?), 90%, 10% respectively.

2430 - 2520 Marl and limestone 80%, 20% respectively.

Siltstone ^{observed} observed at 2517'.

2520 - 2540 Marl and limestone as above.

2540 - 2550 Coal and fine grey clay.

Top of ~~the~~ Lutroba Valley Coal Measures

2550 - 2590 Coal soft, friable.

2590 - 2680 Coal and sand interbeds.

Station at time of report: - preparing to lay and core hole.

Colin G. Gathouse Well site Geologist.
Geologist in charge

19/4/70

Woodside Oil N.L. Salt Lake No 1

Final ^{Geological} ~~Report~~ Weekly Report.~~Saturday~~ 5th May

- 5020 - 5050 40% Sand & gravel, wh, v. coarse gr, gtzose, unconsol.
 30% Clay bn, soft carb.
 30% Basalt as before
- 5050 - 5140 100% Sand & gravel, as above
- 5140 - 5170 50% Sand, wh, coarse gr, gtzose unconsol.
 50% Coal, blk, brittle
- 5170 - 5200 80% Sand as above
 20% Coal as above
- 5200 - 5290 70% Coal as above
 30% Sand as above
- 5290 - 5395 Strozelecki Group
 70% Sandstone grey, f-vgr, poorly std, ang-subrd lithic, feld grains in kaolin/calc. matrix. Tight
 30% Siltstone green, v. mica, carb.

R. Warriss
Wellsite Geologist

913534 083

WEEKLY REPORTS

WOODSIDE OIL N.L.

Salt Lake No. 1(P.EPP 72)

Report for period ending 6th May, 1970.

Depth at end of week: 5395' (Total Depth)
 Progress for week: 365'

A. OPERATIONS

3rd May: Drilled to a depth of 5288 feet.
 4th May: Drilled to a depth of 5395 feet.
 Schlumberger began logging hole.
 5th May: Logging of hole completed.
 Sidewall cores taken.
 Began plugging hole.
 6th May: Completed plugging hole.
 Began rigging down equipment.

The following logs were run:-

Induction Electrical	-	2681'-5387'
Sonic/Gamma Ray	-	2681'-5378'
Formation Density	-	2681'-5385'

The following plugs were set in the hole:-

No. 1:	5100' - 5225'
No. 2:	4725' - 4850'
No. 3:	2605' - 2785'
No. 4:	0' - 50'

Sidewall cores: 21 were shot, 17 were recovered.

B. GEOLOGICAL

See attached report by well-site geologist.

WOODSIDE OIL N.L.

Salt Lake No. 1

Final Geological Weekly Report

- 5020' - 5050' 40% Sand and Gravel, white, very coarse grained, quartzose, unconsolidated.
30% Clay, brown, soft, carbonaceous.
30% Basalt, as before.
- 5050' - 5140' 100% Sand and Gravel, as above.
- 5140' - 5170' 50% Sand, white, coarse grained, quartzose, unconsolidated.
50% Coal; black, brittle.
- 5170' - 5200' 80% Sand, as above.
20% Coal, as above.
- 5200' - 5290' 70% Coal, as above.
30% Sand, as above.
- 5290' - 5395' Strzelecki Group.
70% Sandstone, grey, fine - medium grained, poorly sorted, angular - subrounded, lithic, feldspathic grains in kaolin/calcareous matrix. Tight.
30% Siltstone, green, very mica, carbonaceous.

B. Warris,
Wellsite Geologist.

WOODSIDE OIL N.L.

Salt Lake No. 1 (P.E.P. 72)

Report for week ending 2nd May, 1970.

Depth at end of week: 5030'
Progress for week: 1148'A. OPERATIONS

Drilling of the well continued during the week:-

26th April:	Drilled to a depth of 3884 feet.
27th April:	4068 feet.
28th April:	4346 feet
29th April:	4569 feet
30th April:	4730 feet
1st May:	4850 feet
2nd May:	5030 feet

There were no other operations beyond routine rig maintenance during the week.

Status at end of week: Drilling

B. GEOLOGICAL

See attached report by wellsite geologist.

WOODSIDE OIL N.L.

Salt Lake No. 1

Weekly Geological Report to 8 a.m. 2nd May, 1970.

- 3650' - 3680' 50% Sandstone, white, coarse grained, subangular - rounded, loose quartz grains.
50% Coal, black, brittle.
- 3680' - 3710' 50% Clay, light brown - buff, soft.
50% Sandstone, as above.
- 3710' - 4240' 90% Sandstone, as above.
10% Coal and Clay, as above.
- 4240' - 4330' 80% Coal, as above.
20% Sandstone, as above.
- 4330' - 4710' 100% Sandstone, as above with minor coal and clay.
- 4710' - 4810' 90% Olivine Basalt, black and agreen, highly altered in part to chlorite and zeolite.
10% Clay or Tuff, brown, soft.
- 4810' - 4910' 70% Sandstone, as above.
20% Shale, brown, silty, carbonaceous.
10% Basalt, as above.
- 4910' - 5020' 100% Sand and Gravel, white, very coarse grained, subangular - rounded, quartzose. Minor coal and basalt.

Remarks:

At 4710' there is a formation change from the sands and coal of the Latrobe Valley Coal Measures to the weathered basalts of the Childer's Formation.

At 4810', a sand section was encountered below the basalt but there were no shows or fluorescence associated with these sands.

The section is continuing in the sands and gravels of the Childer's Formation.

B. Warris,
Wellsite Geologist,

2.5.70.

WOODSIDE OIL N.L.

Salt Lake No. 1 (P.E.P 72)

Report for week ending 26th April, 1970.

Depth at end of week: 3872 feet
Progress for week: 1191 feet.

A. OPERATIONS

- 20th April: Reamed from 1990' - 2679'
Schlumberger logged the hole:-
 Induction Electrical log 316' - 2679'
 Sonic-Gamma Ray log 316' - 2671'
Began running casing
- 21st April: Finished running casing.
Cemented casing
- 9⁵/₈" casing shoe at 2670'
 Cemented with 175 sacks cement with
 2¹/₂% gel followed by 175 sacks neat
 cement.
- 22nd April: Waited for cement to set.
Began drilling 8³/₄" hole from casing shoe.

Status at end of week: Drilling

B. GEOLOGICAL

See attached report by wellsite geologist.

WOODSIDE OIL N.L.

SALT LAKE NO. 1Weekly Geological Report to 8 a.m., 26th April.

- 2680' - 2740' Siltstone, grey and light brown-red, laminated, non-calcareous with interbedded coal bands.
- 2740' - 2780' Sandstone with coal and siltstone interbeds.
- 2780' - 2850' Coal, dark brown, soft, friable with minor interbeds of sand and silt.
- 2850' - 2920' Siltstone, very fine grained, dark brown-grey, strongly carbonaceous, with interbeds of coal and sand.
- 2920' - 3370' Coal with some small quantities of sand in the lower 200 feet.
- 3370' - 3390' Sandstone, quartz grains, medium to fine-grained, moderately sorted, angular-subangular with rare glauconite, rich chips of sandstone.
- 3390' - 3457' Sandstone as above with some gravel, small quantities of coal are also present.
- 3457' - 3466' Gravelly sandstone.
- 3466' - 3550' Coal with subordinate sandstone.
- 3550' - 3610' Dominantly sandstone, tending to granule conglomerate near base.
- 3610' - 3680' Coal with sandiness increasing down-hole. Lower 10' with clay.
- 3680' - 3690' Clay, pale brown, very soft.
- 3690' - 3870' Sandstone, as quartz granule, conglomerate with minor amounts of coal and clay.

Colin G. Gatehouse,
Well-site-geologist.

WOODSIDE OIL N.L.

Salt Lake No. 1 (P.E.P.72)

Report for week ending 19th April, 1970.

Depth at end of week : 2679 feet
Progress for week : 2679 feet

A. Operations

- 11th April: Drilled conductor hole and set conductor pipe in place.
- 12th April: Cemented conductor pipe with 25 sacks of cement.
Began drilling 12 $\frac{1}{4}$ " hole.
- 13th April: Drilled 12 $\frac{1}{4}$ " hole to 325 feet.
Reamed hole (17 $\frac{1}{2}$ ") to 325 feet.
Run 13 $\frac{3}{8}$ " casing to 317 feet and cemented with 325 sacks of cement.
- 14th April: Began drilling 12 $\frac{1}{4}$ " hole.
- 15th April: Changed hole size from 12 $\frac{1}{4}$ " to 8 $\frac{3}{4}$ " at 2232 feet and drilled to 2638 feet.
- 19th April: Reamed 8 $\frac{3}{4}$ " hole to 12 $\frac{1}{4}$ " diameter.
Drilled 12 $\frac{1}{4}$ " hole from 2638 to 2679'.
Attempted to log the hole. Sonde held up at 1255'.
Reamed from 1240' to 1990'.

Status at end of week: Reaming hole.

B. Geological

See attached report by well-site geologist.

Weekly Geological Report to 2 p.m. 19th April, 1970

- 0' - 350' No samples taken.
- 350' - 390' Marl, medium grey, soft; with poorly sorted, angular, frosted quartz grains. Interbedded with thin beds of richly fossiliferous limestone, fossils: Pelecypods, and Foraminifera. Porosity low to moderate.
- 390' - 540' Packstone, light grey to brown, soft; heterogeneous texture; fine to medium grained, poorly sorted, angular to subangular grains of fossil fragments. Fossils: Pelecypods, Gastropods, Bryozoa. Slightly glauconitic throughout. Porosity good.
- 540' - 590' Grainstone, very light brown, heterogeneous texture; medium to coarse grained, poorly sorted angular grains. Fossils: Bryozoa, Foraminifera, Echinodermata, Pelecypods. Porosity good.
- 590' - 960' Packstone, light brown, soft homogeneous texture; medium to coarse grained, angular, poorly sorted. Fossils: Bryozoa, Pelecypods, Foraminifera, Echinoderms, some lignitic fragments. Occasional interbeds of coquinas of shell fragments.
- 960' - 1210' Grainstone, light grey, soft; homogeneous, fine - medium grained, angular fossil fragments. Fossils: Bryozoa, Foraminifera, Pelecypods. Glauconite and pyrite present as trace.
- 1210' - 1230' Marl, light grey, with traces of grainstone.
- 1230' - 1240' Grainstone as before.
- 1240' - 1260' Packstone, pale grey, soft, poorly sorted, angular fragments of fossils. Slightly marly in places.
- 1260' - 1350' Marl pale grey, soft, sandy in patches, with about 10% or less of fine - medium grained fossil fragments, and quartz grains, poorly sorted, medium to coarse grained, sub-rounded to rounded.
- 1350' - 1610' Marl, slightly fossiliferous, light brown, very fine grained, with packstone interbeds?
- 1610' - 1700' Grainstone, light - medium brown, slightly cemented, homogeneous texture, fine grained, angular, poorly sorted. Fossils: Bryozoa, Foraminifera; with some quartz and glauconite grains.
- 1700' - 2050' Marl and grainstone, generally in proportions 90%, 10% respectively.
- 2050' - 2224' Marl, grey, soft.

- 2224' - 2240' Hard, mottled medium grey clay.
- 2240' - 2330' Marl, green, slightly sandy, pyritic.
- 2330' - 2430' Marl and limestone (grainstone?), 90%, 10% respectively.
- 2430' - 2520' Marl and limestone, 80%, 20% respectively.
Siltstone observed at 2517'.
- 2520' - 2540' Marl and limestone as above.
- 2540' - 2550' Coal and blue-grey clays.
Top of Latrobe Valley Coal Measures.
- 2550' - 2590' Coal soft, friable.
- 2590' - 2680' Coal and sand interbeds.

Colin G. Gatehouse,
Well Geologist.

19.4.70.

913534 093

AC-JY RUOORU

DAILY DRILLING REPORT No.: 26

WELL: SALT LAKE NO.1.

Date: 7:MAY:'70 Depth:

Footage Drilled:

at the rate of:

Nature of Operations: REMOVING CASING BOWL

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	Size			
Make				
Type				
Nozzles	-----			
Serial No.				
Depth In				
Feet				
Hours				
P.M.				
Pump Press,				
Bit Weight				
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill	
Trip	5
Coring	
Logging	
Open hole test	
Rig. Serv.	
Survey	
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	2½
Others	14
Rigging Down	2½
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	x
No. 2 S.P.M.	
Liner Size	x

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: LAYED DOWN DRILL PIPE AND DRILL COLLARS 5 HRS.,
 REMOVED B.O.P.'s 2½ HRS., BROKE OUT B.O.P. RAMS AND
 CLEANED 2 HRS., REMOVED 13¾" CASING SPOOL AND RAN
 50 FT. SURFACE CEMENT PLUG 2½ HRS., CLEANED MUD
 TANKS 5 HRS., REMOVED PISTON AND LINER FROM
 OILWELL 214-P PUMPS, 6 HRS., RIGGED DOWN 1.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

DAILY DRILLING REPORT No.: 25.

WELL: SALT LAKE NO.1.

Date: 6:MAY:'70 Depth: 5395' Footage Drilled: at the rate of:

Nature of Operations: LAYING DOWN DRILL COLLARS Lithology:

Transmitting Officer: Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	Size			
Make				
Type				
Nozzles	-----			
Serial No.				
Depth In				
Feet				
Hours				
R.P.M.				
Pump Press,				
Bit Weight				
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill	
Trip	4 1/4
Coring	
Logging	12 1/2
Open hole test	
Rig. Serv.	
Survey	
Cut Dr. Line	
Reaming	
Cond. mud & circulating	1/4
Running csg. & cementing	
Completion Plugs	7
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	x
No. 2 S.P.M.	
Liner Size	x

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	
Oil/Wat/Sol.	/ / /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: LOGGING 8 1/2 HRS., WELL VELOCITY SURVEY 4., TRIP IN TO PLUG 2., CIRCULATE 1/4., REPAIRS TO HALLIBURTON UNIT 2., SPOT PLUGS AND LAY DOWN DRILL COLLARS 5., AND DRILL PIPE 2 1/4 HRS.

PERSONNEL CHANGES AND VISITORS:

REMARKS: THE PLUGS :
 NO.1. 5100 - 5225' : 45 SAX
~~NO.2. 4725 - 4850' : 45 SAX~~
 NO.3. 2605 - 2785' : 52 SAX with 2% CALCIUM CHLORIDE.
 NO.3. PLUG DOWN AT 3.56 A.M.

913534 096

DAILY DRILLING REPORT No.: 24

WELL: SALT LAKE NO. 1.

Date: 5-MAY-'70 Depth: 5395' Footage Drilled: 33' at the rate of:

Nature of Operations: LOGGING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit	Previous Bits	
		21.	
Size	8½		
Make	REED		
Type	YMG-J		
Nozzles	3 x 14		
Serial No.	378663		
Depth In	5288		
Feet	107		
Hours	9½		
P.M.	80		
Pump Press,	800		
Bit Weight	30		
Ann. Vel.			
Condition	ST 4B Ig	T B	T B

RIG TIME	
Drill	2½
Trip	4½
Coring	
Logging	15½
Open hole test	
Rig. Serv.	¼
Survey	¼
Cut Dr. Line	
Reaming	
Cond. mud & circulating	1
Running csg. & cementing	
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	6 x 14
No. 2 S.P.M.	58
Liner Size	5¼ x 14

MUD PROPERTIES	
Weight	9.9
Viscosity	53
Water Loss	4
pH	97
Sand	1%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
1½°	at	5395 ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE ¼ HR., SURVEY ¼ HR., DRILLING 2½ HRS.,
WIPER TRIP TO SHOE 2 HRS., CIRCULATED FOR LOGGING
1 HR., PULLED OUT OF HOLE TO LOG 2½ HRS., RIGGED
UP FOR LOGGING, AND LOGGING 15½.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

5350' - 5395' (TD DRILLER, 5388 SCHLUMBERGER)

60% SANDSTONE : GREY, FINE TO MEDIUM GRAINED.

POORLY SORTED, SUB-ROUNDED TO ANGULAR, KAOLINITIC,

CALCAREOUS MATRIX, LITHIC, FELSPATHIC, TIGHT, FRIABLE.

40% SILTSTONE : GREEN, VERY MICACEOUS, CARBONACEOUS.

AT TIME OF TRANSMITTAL (9.45 a.m.) RUNNING CDM,

EXPECTED FINISH ABOUT 10.30 A.M., THEN RUN VELOCITY

SURVEY AND TAKE 21 SWC

DAILY DRILLING REPORT No.: 23.

WELL: SALT LAKE NO. 1.

Date: 4-MAY-70. Depth: 5362' Footage Drilled: 168' at the rate of: 10 - 14' /HR.

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit		Previous Bits
	21.	20.	
Size	8½	8½	
Make	Reed	Reed	
Type	YMG-J	YHG-J	
Nozzles	3 x 14	3 x 14	
Serial No.	378663	379805	
Depth In	5288	5164	
Feet	74	124	
Hours	7	12¼	
P.M.	80	80	
Pump Press,	800	800	
Bit Weight	30	30	
Ann. Vel.			
Condition	T B	6 T 4 B 1	T B

RIG TIME	
Drill	17¼
Trip	4¾
Coring	
Logging	
Open hole test	
Rig. Serv.	½
Survey	¼
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
Other	½
Repairs	¾

PUMPS	
No. 1 S.P.M.	
Liner Size	6 x 14
No. 2 S.P.M.	58
Liner Size	5¼ x 14

MUD PROPERTIES	
Weight	9.1
Viscosity	45
Water Loss	3.4
pH	9.7
Sand	1%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS	
° at	ft.
° at	ft.
° at	ft.
° at	ft.
° at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE ½ HR., SURVEY ¼., ANCHOR MOUSE HOLE ½.,
 REPAIR AIR LINE TO HIGH DRAW CLUTCH AND ADJUST BRAKES ¾.,
 TRIP FOR BIT CHANGE 4¾., DRILLING 17¼.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

5160' - 5170' 60% SANDSTONE : WHITE, COARSE GRAINED, LOOSE, QUARTZOSE.
 40% COAL : BLACK, BRITTLE.

5170' - 5200' 90% SANDSTONE : as above
 10% COAL : as above

5200' - 5290' 30% SANDSTONE : as above
 70% COAL : as above

5290' - 5362' 80% SANDSTONE : GREY-GREEN, FINE TO MEDIUM GRAINED WITH
 SUB-ANGULAR TO SUB-ROUNDED, POORLY SORTED, QUARTZOSE,
 FELSPATHIC, STRONGLY KAOLINITIC, CHERT, LITHIC
 FRAGMENTS IN A CALCAREOUS AND CLAYEY MATRIX, FRIABLE
 BUT TIGHT.
 20% SILTSTONE : GREY TO GREEN, MICROMICACEOUS,
 CARBONACEOUS.

TENTATIVE TOP OF STRZELECKI GROUP : 5290'.

DAILY DRILLING REPORT No.: 22.

WELL: SALT LAKE NO. 1.

Date: 3: MAY: '70 Depth: 5194' Footage Drilled: 164' at the rate of: 8'-26'/HR.

Nature of Operations: CLEANING MUD TANK

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	20.	18.	19.	
Size	8½	8⅝	8½	
Make	REED	SMITH	REED	
Type	YHG-J	T2H-J	YMG-J	
Nozzles	3 x 14	3 x 14	3 x 14	
Serial No.	379805	25662	378662	
Depth In	5164	4905	5048	
Feet	30	143	116	
Hours	2	12¾	8¾	
R.P.M.	80	80	80	
Pump Press,	800	800	800	
Bit Weight	30,000	20 - 30	25,000	
Ann. Vel.				
Condition	T B	7 T 4B ⅛	7 T 4B I	

RIG TIME	
Drill	12½
Trip	8
Coring	
Logging	
Open hole test	
Rig. Serv.	
Survey	¼
Cut Dr. Line	
Reaming	½
Cond. mud & circulating	¼
Running csg. & cementing	
Other	2
Repairs	½

PUMPS	
No. 1 S.P.M.	6 x 14
Liner Size	x
No. 2 S.P.M.	60
Liner Size	5¼ x 14

MUD PROPERTIES	
Weight	9.8
Viscosity	40
Water Loss	4.9
pH	9.7
Sand	1%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
1¾	° at	5048 ft.
	° at	ft.
	° at	ft.
	° at	ft.
	° at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: SURVEY ¼ HR., CLEAN OUT MUD TANK 2., CIRCULATE
 SAMPLE ¼., WELDED OUTLET ON DISCHARGE LINE TO STAND
 PIPE ½., TRIPS FOR BIT CHANGES 8., HELD UP 2700 -
 REAMED 2800' ½., DRILLING 12½.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

5020' - 5060' SANDSTONE 60%
 BASALT 20%
 COAL 20%.
 5060' - 5140' SANDSTONE 100%.
 5140' - 5160' SANDSTONE 60%
 COAL 40% : DARK BROWN - BLACK, BRITTLE.

DAILY DRILLING REPORT No.: 21

WELL: SALT LAKE NO. 1.

Date: 2 MAY '70 Depth: 5030' Footage Drilled: 180' at the rate of: 8 - 20' /HR.

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit		Previous Bits
	18.	17.	
Size	8 ⁵ / ₈	8 ⁵ / ₈	
Make	SMITH	SMITH	
Type	T2H-J	T2H-J	
Nozzles	3 x 14	3 x 14	
Serial No.	25662	25664	
Depth In	4905	4776	
Feet	125	129	
Hours	11	14 ¹ / ₄	
S.P.M.	80	80	
Pump Press,	800	800	
Bit Weight	20	20	
Ann. Vel.			
Condition	T B	6 T 4 B I	T B

RIG TIME	
Drill	15 ³ / ₄
Trip	4 ³ / ₄
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{1}{2}$
Survey	
Cut Dr. Line	1
Reaming	
Cond. mud & circulating	$\frac{1}{4}$
Running csg. & cementing	
Other	$\frac{1}{4}$
Repairs	1 ¹ / ₂

PUMPS	
No. 1 S.P.M.	
Liner Size	6 x 14
No. 2 S.P.M.	60
Liner Size	5 ¹ / ₂ x 14

MUD PROPERTIES	
Weight	9.4
Viscosity	53
Water Loss	4.2
pH	9.7
Sand	1.5%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{2}$., CHANGE TO NO. 2. LIGHTING PLANT $\frac{1}{4}$.,
 SLIP AND CUT BLOCK LINE 1., RENEW SWIVEL WASHPIPE 1¹/₂.,
 CIRCULATE SAMPLE $\frac{1}{4}$., DRILLING 15³/₄., TRIP FOR BIT
 CHANGE 4³/₄.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

4850' - 4910' 70% SANDSTONE : WHITE, COARSE GRAINED, SUB-ANGULAR TO SUB-ROUNDED, LOOSE, QUARTZOSE.
 20% CLAY : BUFF TO BROWN, SOFT.
 10% BASALT : BLACK AND GREEN, ALTERED TO CHLORITE.

4910' - 5020' 100% SAND AND GRAVEL : WHITE, VERY COARSE GRAINED, SUB-ANGULAR TO SUB-ROUNDED, UNCONSOLIDATED, MINOR COAL AND BASALT.
 NO SHOWS OR FLUORESCENCE.

DAILY DRILLING REPORT No.: 20.

WELL: SALT LAKE NO. 1.

Date: 1 MAY, 1970 Depth: 4850'

Footage Drilled: 120

at the rate of: 2 - 24' / HR.

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				RIG TIME		PUMPS	
Bit No.	Present Bit	Previous Bits		Drill	16 $\frac{1}{2}$	No. 1 S.P.M.	Liner Size
	17.	16.					
Size	8 $\frac{5}{8}$ "	8 $\frac{5}{8}$ "		Trip	3 $\frac{3}{4}$	No. 2 S.P.M.	60
Make	SMITH	HUGHES		Coring		Liner Size	5 $\frac{1}{4}$ x 14
Type	T2H/J	OWVJ		Logging			
Nozzles	3 x 14	3 x 18		Open hole test			
Serial No.	25664	UK 64834		Rig. Serv.	$\frac{1}{4}$		
Depth In	4776	4729		Survey			
Feet	74	37		Cut Dr. Line			
Hours	9 $\frac{1}{2}$	8		Reaming	$\frac{1}{2}$		
R.P.M.	80	80		Cond. mud & circulating			
Pump Press,	800	800		Running csg. & cementing			
Bit Weight	20	18					
Ann. Vel.							
Condition	T B	4 T 4B 0 $\frac{1}{8}$	T B	Repairs	3		

MUD PROPERTIES

Weight	9.4
Viscosity	57
Water Loss	4
pH	9.7
Sand	1.5
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS

°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{4}$ HR., CHANGE 4" FLEX SEAL VALVE ON NO. 1.
 PUMP 1 HR., REAM UNDERGAUGE HOLE $\frac{1}{2}$ HR., RENEW SWIVEL
 WASHPIPE PACKING 2 HRS., TRIP FOR BIT CHANGE 3 $\frac{3}{4}$ HRS.,
 DRILLING 16 $\frac{1}{2}$ HRS.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

4720' - 4810' 100% OLIVINE BASALT : BLACK (FRESH), BLuish-GREEN (WEATHERED), OLIVINE AND PYROXENE AS PHENOCRYSTS AND PLAGIOCLASE AND AS GROUND MASS. WEATHERED TO CHLORITE, ZEOLITE, AND LIMONITE. MINOR AMOUNTS OF CLAY, BROWN, SOFT WITH GLASSY MATERIAL.

4810' - 4850' 30% WEATHERED OLIVINE BASALT : as above.
 60% SANDSTONE : PALE GREY TO WHITE, CONSOLIDATED WITH COARSE GRAINED, MODERATELY SORTED, SUB-ANGULAR TO SUB-ROUNDED QUARTZ SAND. NO SHOWS OR FLUORESCENCE.
 10% MUDSTONE : BROWN, SILTY AND CARBONACEOUS.

LITHOLOGICAL CHANGE TO SANDSTONE OBSERVED AT 4810 FEET.
 POSSIBLE CAVINGS.

DAILY DRILLING REPORT No.: 19.

WELL: SALT LAKE NO. 1.

Date: 30-4-'70 Depth: 4730

Footage Drilled: 161

at the rate of: 4' - 30' / HR.

Nature of Operations: DRILLING.

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	16.	14.	15.	
Size	8 $\frac{5}{8}$ "	8 $\frac{5}{8}$ "	8 $\frac{5}{8}$ "	
Make	HUGHES	HUGHES	HUGHES	
Type	OWVJ	OWVJ	OWVJ	
Nozzles	3 x 18	3 x 18	3 x 18	
Serial No.	UK 64834	UK 64836	UK 64835	
Depth In	4729	4569	4683	
Feet	1	114	46	
Hours	$\frac{3}{4}$	5 $\frac{1}{4}$	5	
R.P.M.	80	800	80	
Pump Press,	800	800	800	
Bit Weight	10-20	15 - 20	15	
Ann. Vel.				
Condition	T B	6 T 6B 0 $\frac{1}{8}$	4 T 4 B InG.	

RIG TIME	
Drill	11
Trip	9 $\frac{1}{2}$
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{1}{2}$
Survey	$\frac{1}{4}$
Cut Dr. Line	
Reaming	1
Conductivity circulating	1 $\frac{1}{4}$
Running csg. & cementing	
Change lighting	$\frac{1}{4}$
Repairs	$\frac{1}{4}$

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	10.5
Viscosity	53
Water Loss	3.4
pH	9.7
Sand	2%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS	
1° at	4683 ft.
° at	ft.
° at	ft.
° at	ft.
° at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{2}$ HR., SURVEYS $\frac{1}{4}$., WELD LEAK IN SAND PIPE $\frac{1}{4}$., REAM UNDER GAUGE HOLE 1., CHANGE TO NO.2 LIGHTING PLANT $\frac{1}{4}$., CIRCULATE SAMPLES 1 $\frac{1}{4}$., TRIP FOR BIT CHANGES 9 $\frac{1}{2}$., DRILLING 11.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

4560' - 4670' 100% SANDSTONE : WHITE, COARSE GRAINED, POORLY SORTED, WITH SUB-ANGULAR TO SUB-ROUNDED, LOOSE, QUARTZ SAND.

4670' - 4710' 80% SANDSTONE : as above.

10% COAL : BLACK, SILTY, BRITTLE.

10% SHALE : DARK TO LIGHT BROWN LAMINATED, SILTY, MICACEOUS, VERY CARBONACEOUS, WITH COALY STREAKS.

4710' - 4720' 40% SANDSTONE : as above.

60% WEATHERED BASALT : GREEN AND WHITE, MOSTLY CHLORITE AND ZEOLITE WITH LIMONITE AND PYRITES.

TENTATIVE TOP OF WEATHERED BASALT AT 4710 FEET.

DAILY DRILLING REPORT No.: 18.

WELL: SALT LAKE NO. 1.

Date: 29/4/70 Depth: 4569' Footage Drilled: 223 at the rate of: 5 - 32' / HR.

Nature of Operations: TRIPPING FOR BIT CHANGE Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
	Present Bit		Previous Bits
Bit No.	13.	12.	
Size	8 $\frac{5}{8}$ "	8 $\frac{5}{8}$ "	
Make	HUGHES	HUGHES	
Type	3 x 18	3 x 18	
Nozzles	-----		
Serial No.	67478	UK64831	
Depth In.	4455	4249	
Feet	114	206	
Hours	8 $\frac{1}{4}$	11 $\frac{1}{2}$	
R.P.M.	80	80	
Pump Press.	800	800	
Bit Weight	15 - 20	10 - 20	
Ann. Vel.			
Condition	T B	7 T 6 B 0 $\frac{1}{8}$	T B

RIG TIME	
Drill	14 $\frac{1}{2}$
Trip	6
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{1}{2}$
Survey	$\frac{1}{4}$
Cut Dr. Line	
Reaming	$\frac{1}{2}$
Cond. mud & circulating etc.	1 $\frac{3}{4}$
Running csg. & cementing	
Repairs	$\frac{1}{2}$

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 $\frac{1}{4}$ x 114

MUD PROPERTIES	
Weight	9.3
Viscosity	52
Water Loss	3.4
pH	9.7
Sand	2%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS	
1 $\frac{1}{2}$ °	at 4455 ft.
°	at ft.
°	at ft.
°	at ft.
°	at ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{2}$ HR., SURVEY $\frac{1}{4}$., CIRCULATE AND ADD DIESEL OIL TO MUD $1\frac{1}{4}$., CIRCULATE SAMPLE $\frac{1}{2}$., REPAIR VALVE ON FILL UP LINE $\frac{1}{2}$., TRIP FOR BIT CHANGE 6., REAM UNDERGAUGE HOLE $\frac{1}{2}$., DRILLING $14\frac{1}{2}$.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

4330' - 4510' 90% SANDSTONE : WHITE, COARSE GRAINED, CONGLOMERITIC, POORLY SORTED, SUB ANGULAR TO SUB ROUNDED, LOOSE QUARTZ SANDS.

10% COAL : BLACK TO DARK BROWN, SOFT AND SILTY.

4510' - 4550' 70% SANDSTONE : AS ABOVE.

30% SHALE : LIGHT BROWN, LAMINATED, SILTY, MICA AND VERY CARBONACEOUS WITH COALY STREAKS.

4550' - 4560' 100% SANDSTONE : AS ABOVE.

GEOLOG

DAILY DRILLING REPORT No.: 17.

WELL: SALT LAKE NO.1.

Date: 28-4-'70 Depth: 4346' Footage Drilled: 278 at the rate of: 12 - 35' /HR

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit		Previous Bits
	12.	11.	
Size	8 5/8"	8 3/4"	
Make	HUGHES	GLOBE	
Type	OWVJ	MHV3	
Nozzles	3 x 18	GON.	
Serial No.	UK 64831	36173	
Depth In	4249	4068	
Feet	97	181	
Hours	5 1/4	8 1/2	
R.P.M.	80	80	
Pump Press,	700	650	
Bit Weight	10 - 20	20,000	
Ann. Vel.			
Condition	T B	7 T 4 B 1.	T B

RIG TIME	
Drill	13 3/4
Trip	7 1/4
Coring	
Logging	
Open hole test	
Rig. Serv.	1/2
Survey	1/4
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
Circ. Sample	1/2
Repairs	1 3/4

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	9.3
Viscosity	51
Water Loss	4.8
pH	9.7
Sand	3%
Oil/Wat/Sol.	/ / /

DEVIATION SURVEYS	
1 3/4° at	4249 ft.
° at	ft.
° at	ft.
° at	ft.
° at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE 1/2 HR., SURVEY 1/4., REPAIR HYDROMATIC BRAKE CHAIN 1 3/4., CIRCULATE SAMPLE 1/2., TRIP FOR BIT CHANGE 7 1/4., DRILLING 13 3/4.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

- 4060' - 4080' SANDSTONE 100%.
- 4080' - 4120' SANDSTONE 90%, CLAY 10%.
- 4120' - 4180' SANDSTONE 100%.
- 4180' - 4240' SANDSTONE 90%, CLAY 10%.
- 4240' - 4250' COAL 100%.
- 4250' - 4260' SANDSTONE 90%, COAL 10%.
- 4260' - 4280' COAL 90%, SANDSTONE 10%.
- 4280' - 4290' COAL 40%, SANDSTONE 60%.
- 4290' - 4310' COAL 80%, SANDSTONE 10%, CLAY 10%.
- 4310' - 4320' SANDSTONE 90%, COAL 10%.

DAILY DRILLING REPORT No.: 16

WELL: SALT LAKE NO. 1

Date: 27:4:70, Depth: 4068 FT., Footage Drilled: 188 at the rate of: 4 - 14' /HR.

Nature of Operations: TRIPPING FOR BIT CHANGE

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	10.	9.		
Size	8 3/4"	8 3/4"		
Make	GLOBE	GLOBE		
Type	MHV3	MHV3		
Nozzles	CON.	CON.		
Serial No.	30744	30755		
Depth In	3910	3735		
Feet	158	175		
Hours	11 1/4	11 1/2		
R.P.M.	80	80		
Pump Press,	650	650		
Bit Weight	15	20		
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill	13 3/4
Trip	4 3/4
Coring	
Logging	
Open hole test	
Rig. Serv.	1/2
Survey	1/4
Cut Dr. Line	1
Reaming	
Cond. mud & circulating	1/2
Running csg. & cementing	
Repairs	3 1/4

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	9.3
Viscosity	56
Water Loss	4.6
pH	2/32
Sand	4%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
2°	at	3910 ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE 1/2 HR., SURVEY 1/4., SLIPPED AND CUT BLOCK LINE 1., REPAIRED BLOCK LINE CLAMP ON DRAWWORKS MAIN DRUM 3 1/4., DRILLING 13 3/4., CIRCULATED 1/2., TRIPPED FOR BIT CHANGE 4 3/4.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

3870' - 3900' SANDSTONE 95%, CLAY 5%.
 3900' - 3910' COAL 95%, SANDSTONE 5%.
 3910' - 3950' COAL 70%, CLAY 20%, SANDSTONE 10%.
 3950' - 3980' SANDSTONE.
 3980' - 4020' SANDSTONE 95%, COAL 5%.
 4020' - 4030' CLAY 90%, SANDSTONE 10%.
 4030' - 4060' SANDSTONE 70%, CLAY 30%.

DAILY DRILLING REPORT No.: 15

WELL: SALT LAKE NO.1.

Date: 26:4:70 Depth: 3884 Footage Drilled: 232' at the rate of: 10 - 12' /HR.

Nature of Operations:

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	9.	8.		
Size	8 $\frac{3}{4}$ "	8 $\frac{3}{4}$ "		
Make	Globe	Reed		
Type	MHV3	YHGJ		
Nozzles	CON. ---	3 x 18		
Serial No.	30755	A 36300		
Depth In	3735	3569		
Feet	145	166		
Hours	9	13 $\frac{1}{2}$		
R.P.M.	80	80		
Pump Press,	650	800		
Bit Weight	15 - 20	15 - 20		
Ann. Vel.				
Condition	T B	7 T 4 B Eng.	T	B

RIG TIME	
Drill	17 $\frac{1}{4}$
Trip	3 $\frac{1}{2}$
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{1}{4}$
Survey	$\frac{1}{4}$
Cut Dr. Line	
Reaming	
Cond. mud & circulating	$\frac{1}{4}$
Running csg. & cementing	
Repairs	2 $\frac{1}{2}$

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	9.4
Viscosity	59
Water Loss	5.3
pH	9.7
Sand	3%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS	
$\frac{3}{4}$ "	at 3735 ft.
°	at ft.
°	at ft.
°	at ft.
°	at ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{4}$ HR., SURVEY $\frac{1}{4}$., REPAIRED GUARD ON HIGH DRUM CLUTCH $\frac{3}{4}$., CIRCULATED FOR SAMPLE $\frac{1}{4}$., TRIP FOR BIT CHANGE 3 $\frac{1}{2}$., DRILLING 17 $\frac{1}{4}$., REPAIR WATER PUMP AND FILL UP MUD VOLUME 1 $\frac{3}{4}$.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

3650' - 3670' COAL 30%, SANDSTONE 70%.
 3670' - 3680' COAL 80%, SANDSTONE 10%, CLAY 10%. ✓
 3680' - 3690' CLAY 80% : LIGHT BROWN, SANDSTONE 10%, COAL 10%.
 3690' - 3750' SANDSTONE 80%, COAL 10%, CLAY 10%.
 3750' - 3830' SANDSTONE 100% : COARSE GRANULE CONGLOMERATE.
 3830' - 3870' SANDSTONE 90% : FINE GRAINED, CLAY 10%.

DAILY DRILLING REPORT No.: 14.

WELL: SALT LAKE NO. 1.

Date: 25:4:70 Depth: 3652' Footage Drilled: 194' at the rate of: 9 - 20' /HR.

Nature of Operations:

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit	Previous Bits	
	8.	7.	
Size	8 $\frac{3}{4}$ "	8 $\frac{3}{4}$ "	
Make	Reed	Reed	
Type	YHGJ	YMGJ	
Nozzles	3 x 18	3 x 11	
Serial No.	A36300	T36628	
Depth In	3569	3458	
Feet	83	111	
Hours	5 $\frac{1}{4}$	9 $\frac{1}{2}$	
R.P.M.	80	80	
Pump Press,	800	800	
Bit Weight	15 - 20	25,000	
Ann. Vel.			
Condition	T B	6T 5 1	T B

RIG TIME	
Drill	14 $\frac{3}{4}$
Trip	5 $\frac{3}{4}$
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{1}{2}$
Survey	$\frac{1}{4}$
Cut Dr. Line	
Reaming	1
Cond. mud & circulating	$\frac{1}{2}$
Running csg. & cementing	
Repairs	1 $\frac{1}{4}$

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	10.1
Viscosity	55
Water Loss	5.2
pH	9.7
Sand	3.5%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS	
1 $\frac{1}{2}$ ° at	3569 ft.
° at	ft.
° at	ft.
° at	ft.
° at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{2}$ HR., SURVEY $\frac{1}{4}$ /, REAMED UNDER GAUGED HOLE 1., REPAIRED AIR LINE 1 $\frac{1}{4}$., DRILLING 14 $\frac{3}{4}$., CIRCULATED $\frac{1}{2}$., TRIP FOR BIT CHANGE 5 $\frac{3}{4}$ HRS.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

3460' - 3466' GRAVEL 100%

3466' - 3490' COAL 60%, SANDSTONE 40% : QUARTZ GRAVEL CONGLOMERATES.

3490' - 3550' COAL 40%, SANDSTONE 60%

3550' - 3570' SANDSTONE 90%, COAL 10%.

3570' - 3610' SANDSTONE 100% : QUARTZ GRAVEL CONGLOMERATES.

3610' - 3620' COAL 100%.

3620' - 3630' COAL 80%, SANDSTONE 20%.

3630' - 3650' SANDSTONE 80%, COALS 20%.

GEOLOG

DAILY DRILLING REPORT No.: 13.

WELL: SALT LAKE NO. 1.

Date: 24:4:'70 Depth: 3458 Footage Drilled: 318' at the rate of: 2-30'/HR

Nature of Operations: TRIPPING FOR BIT CHANGE

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit	Previous Bits	
	6.	5.	
Size	8 3/4"	8 3/4"	
Make	Sec.	Globe.	
Type	S-4	MHV-3	
Nozzles	Con.	Con.	
Serial No.	661641	30774	
Depth In	3391	3108	
Feet	67	283	
Hours	3 1/2	14 1/2	
R.P.M.	90	90	
Pump Press,	600	550	
Bit Weight	20	15 - 20	
Ann. Vel.			
Condition	T B	7T 5B 1	T B

RIG TIME	
Drill	15 3/4
Trip	4 1/4
Coring	
Logging	
Open hole test	
Rig. Serv.	1/2
Survey	1/4
Cut Dr. Line	1/2
Reaming	
Cond. mud & circulating	1/2
Running csg. & cementing	
Other	2 1/4
Repairs	

PUMPS	
No. 1 S.P.M.	60
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	10
Viscosity	65
Water Loss	8.6
pH	9.7
Sand	3.5
Oil/Wat/Sol.	/ / /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE 1/2., SURVEYS 1/4 HR., PULL BACK SEVEN SANDS AND BRACED WELLHEAD WITH TIMBER BLOCKS IN BOTTOM OF CELLAR 2 1/4., CIRCULATE SAMPLE 1/2., SLIP BLOCK LINE 1/2., TRIPPING FOR BIT CHANGE 4 1/4., DRILLING 15 3/4.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

3140' - 3190' : COAL 100%.
 3190' - 3370' : COAL 80%, SANDSTONE 20%.
 3370' - 3390' : SANDSTONE 80%, COAL 20%.
 3390' - 3440' : SANDSTONE 100%, - MEDIUM GRAINED, MODERATE SORTING.
 3440' - 3457' : SANDSTONE 70%, - SLIGHTLY GRAVELLY, COAL 30%.
 3457' - 3458' : GRAVEL 100% - QUARTZ, MEDIUM TO COARSE GRAINED.

3502' at 4:00 PM

3460 - 3468: Hand drilling at 2-4' / hour
 3468 - 3496: Soft " " 2 to 20' / hour
 3496 - 3504: " " at 12' / hour

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DAILY DRILLING REPORT No.: 12.

WELL: SALT LAKE NO. 1.

Date: 23:4:70 Depth: 3140' Footage Drilled: 460' at the rate of: 30'/HR.

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				RIG TIME		PUMPS		
Bit No.	Present Bit		Previous Bits		Drill	17 $\frac{3}{4}$	No. 1 S.P.M.	58
	5.	4.						
Size	8 $\frac{3}{4}$ "	8 $\frac{3}{4}$ "			Tripping	3 $\frac{1}{2}$	Liner Size	6 x 14
Make	Globe	Security			Coring		No. 2 S.P.M.	
Type	MHV3	S-4			Logging		Liner Size	6 $\frac{1}{2}$ x 14
Nozzles	Con.	Con.			Open hole test			
Serial No.	30774	603171			Rig. Serv.	$\frac{1}{2}$		
Depth In	3108	2680			Survey	$\frac{3}{4}$		
Feet	32	428			Cut Dr. Line			
Hours	1 $\frac{3}{4}$	16			Reaming			
R.P.M.	100	120			Cond. mud & circulating	$\frac{1}{4}$		
Pump Press.	550	500			Running csg. & cementing			
Bit Weight	10	8 - 10			Other	1 $\frac{1}{4}$		
Ann. Vel.								
Condition	T B	7 T 6 B 1	T B		Repairs			

MUD PROPERTIES	
Weight	9.8
Viscosity	45
Water Loss	8.2
pH	9.7
Sand	2%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS	
2°	at 2760 ft.
1 $\frac{3}{4}$ °	at 2963 ft.
1 $\frac{3}{4}$ °	at 3108 ft.
°	at ft.
°	at ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{2}$ HR., SURVEYS $\frac{3}{4}$., CENTRED AND STABILIZED WELLHEAD 1 $\frac{1}{4}$., P.O.H. BIT CHANGE AND LAID DOWN THREE STANDS OF DRILL PIPE 3 $\frac{1}{2}$., R.I.H. - CIRCULATED $\frac{1}{4}$., DRILLING 17 $\frac{3}{4}$.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY: 2680 - 2700 SILTSTONE : GREY AND LIGHT BROWN, RED LAMINA, NON CALCAREOUS.

2700' - 2703' COAL.

2703' - 2740' SILTSTONE INTERBEDDED WITH COAL. SILTSTONE INCREASING FROM 20% TO 85% DOWN HOLE, SLIGHTLY SANDY.

2740' - 2750' SANDSTONE 80%, COAL 10%, SILTSTONE 10%.

2750' - 2780' SANDSTONE 60%, COAL 20%, SILTSTONE 20%.

2780' - 2790' COAL 100%.

2790' - 2850' COAL 80%, SILTSTONE 10%, SANDSTONE 10%.

2850' - 2920' SILTSTONE 40%, SANDSTONE 30%, COAL 30%.

2920' - 3100' COAL 100%. TRACES OF SAND.

3100' - 3140' COAL 100%.

3270' at 4:30 PM. - No Surveyor Recd

GEOLOG

DAILY DRILLING REPORT No.: 11.

WELL: SALT LAKE NO. 1.

Date: 22:4:70 Depth: 2680' Footage Drilled: at the rate of:

Nature of Operations: PRESSURE TESTING CEMENT BOND Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
	Present Bit	Previous Bits	
Bit No.	4.		
Size	8 3/4"		
Make	Security		
Type	S-4		
Nozzles	Con.		
Serial No.	603171		
Depth In	2680		
Feet			
Hours			
R.P.M.	80		
Pump Press,	700		
Bit Weight	5		
Ann. Vel.			
Condition	T B	T B	T B

RIG TIME	
Drill	
Trip	
Coring	
Logging	
Open hole test	
Rig. Serv.	
Survey	
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
See Below	24
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	6 x 14
No. 2 S.P.M.	45
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: WAIT ON CEMENT, NIPPLE UP WELLHEAD AND PRESSURE TEST BOP's 19 1/2., LAY OUT WELLHEAD TESTER 1/4., TRIP IN WITH BIT 1 3/4., DRILLING OUT CEMENT 2 1/4., PRESSURE TESTING CEMENT BOND 1/4.

PERSONNEL CHANGES AND VISITORS:

REMARKS: PRESSURE TESTED CASING BOWL AND CAMERON BOP TO 2000 PSI FOR 30 MINUTES - OK. PRESSURE TESTED REGAN BOP TO 1500 PSI FOR 30 ~~MINUTES~~ MINUTES - OK.

9:30 - 22nd April - Drilling @ 2722 ft.

110

DAILY DRILLING REPORT No.: 10.

WELL: SALT LAKE NO. 1.

Date: 21-4-70 Depth: 2680 Footage Drilled: at the rate of:

Nature of Operations: WAITING ON CEMENT

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	Size			
Make				
Type				
Nozzles	-----			
Serial No.				
Depth In				
Feet				
Hours				
R.P.M.				
Pump Press,				
Bit Weight				
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill	
Trip	2 1/2
Coring	
Logging	5 1/4
Open hole test	
Rig. Serv.	
Survey	
Cut Dr. Line	
Reaming	
Cond. mud & circulating	2 3/4
Running csg. & cementing	9
W.O.C.	4 1/2
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	6 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	
Oil/Wat/Sol.	/ / /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: LOGGING 5 1/4 HRS., R.I.H. 1., CIRCULATE AND CONDITION MUD 1 3/4., P.O.H. 1 1/2., RIG UP AND RUN 9 5/8" x 36 LBS. CASING 7 1/2., FITTED CEMENT HEAD AND CIRCULATE CASING 1 1/4 HR., CEMENT 9 5/8" CASING WITH TOTAL OF 350 BAGS CEMENT (175 BAGS WITH PRE-MIX GEL AND WATER, 12 LBS PER GAL. SLURRY. 175 BAGS STRAIGHT CEMENT WATER MIX, 15.2 LBS PER GAL. SLURRY) 1 1/4 HRS., 9 5/8" CASING SHOE AT ~~PERSONNEL CHANGES AND SCHEDULE~~ 2679 FT., W.O.C. 4 1/2 HRS.

REMARKS:

GEOLOGY:

DAILY DRILLING REPORT No.: 9.

WELL: SALT LAKE NO. 1.

Date: 20:4:1970 Depth: 2680' Footage Drilled: 42' at the rate of:

Nature of Operations: LOGGING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	2.	2.		
Size	12 $\frac{1}{4}$ "	12 $\frac{1}{4}$ "		
Make	REED	REED		
Type	YT3R	YT3R		
Nozzles	Con.	Con.		
Serial No.	S. 12506	S. 12506		
Depth In	1240	2232		
Feet	1440	448		
Hours	5 $\frac{1}{2}$	5 $\frac{3}{4}$		
R.P.M.	120	120		
Pump Press,	800	600		
Bit Weight	-	8		
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill: Open Hole	5 $\frac{3}{4}$
Trip	4 $\frac{3}{4}$
Coring	
Logging	2 $\frac{1}{2}$
Open hole test	
Rig. Serv.	$\frac{1}{4}$
Survey	
Cut Dr. Line	
Reaming	4 $\frac{1}{2}$
Cond. mud & circulating	5
Running csg. & cementing	
Circ. Sample	$\frac{3}{4}$
Wiper Trip	$\frac{1}{2}$
Repairs	

PUMPS	
No. 1 S.P.M.	48
Liner Size	7 $\frac{1}{4}$ x 14
No. 2 S.P.M.	60
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	9.9
Viscosity	55
Water Loss	8
pH	9
Sand	8
Oil/Wat/Sol.	/ / /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{1}{4}$ HR., OPEN 8 $\frac{3}{4}$ " HOLE TO 12 $\frac{1}{4}$ " TO 2638' 5 $\frac{1}{4}$., DRILL 12 $\frac{1}{4}$ " HOLE TO 2680' $\frac{1}{2}$., CIRCULATE SAMPLE $\frac{3}{4}$., DUMMY TRIP SIX STANDS $\frac{1}{2}$., CIRCULATE HOLE FOR LOGGING 1 $\frac{1}{2}$., TRIP OUT 2 $\frac{1}{4}$., RIG UP AND RUN LOG 1 $\frac{3}{4}$., TRIP IN 1., CLEAN FROM 1240' TO BOTTOM 4 $\frac{1}{2}$., CIRCULATE AND CONDITION MUD 3 $\frac{1}{2}$., TRIP OUT TO LOG 1 $\frac{1}{2}$., LOGGING $\frac{3}{4}$..

PERSONNEL CHANGES AND VISITORS:

REMARKS: LOG HELD UP AT 1255' ON FIRST RUN.

GEOLOGY: 2638' - 2680' COAL 50% & INTERBEDDED SANDSTONE 50%.

COAL : LIGHT BROWN TO DARK BROWN, SPLINTERY, WOODY FRAGMENTS.

SANDSTONE : COMPRISING COLOURLESS TO SLIGHTLY CLOUDY, MEDIUM TO COARSE GRAINED, QUARTZOSE, MODERATE SORTING, EXCELLENT POROSITY, NO FLUORESCENCE.

UP TO 10 UNITS RECORDED ON THE GAS DETECTOR IN THIS INTERVAL.

DAILY DRILLING REPORT No.: 8.

WELL: SALT LAKE NO. 1.

Date: 19-4-1970 Depth: 2638' Footage Drilled: 346' at the rate of: 30'/HR

Nature of Operations: OPENING HOLE TO 12 $\frac{1}{4}$ " AT 2380' Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	2.	3.		
Size	12 $\frac{1}{4}$ "	8 $\frac{3}{4}$ "		
Make	REED	SEC.		
Type	YT3R	S4R		
Nozzles	Con.	Con.		
Serial No.	S.12506	666313		
Depth In	2232	2232		
Feet	148	406		
Hours	3 $\frac{3}{4}$	14		
R.P.M.	120	120		
Pump Press,	600	500		
Bit Weight	8	5-8,000 lbs.		
Ann. Vel.				
Condition	T B	2T 2B Engaged	T B	

RIG TIME	
Drill - Open hole	15 $\frac{1}{4}$
Trip	3 $\frac{1}{2}$
Coring	
Logging	
Open hole test	
Rig. Serv.	3 $\frac{3}{4}$
Survey	1 $\frac{1}{4}$
Cut Dr. Line	
Reaming	2
Cond. mud & circulating	1 $\frac{1}{4}$
Running csg. & cementing	
Circ. Sample	1
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	7 $\frac{1}{4}$ x 14
No. 2 S.P.M.	60
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	9.6
Viscosity	60
Water Loss	7
pH	8
Sand	10
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
1 $\frac{1}{2}$ °	at	2500 ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{3}{4}$ HR., SURVEYS $\frac{1}{4}$., CIRCULATE SAMPLE 1., DRILLING 12., CIRCULATE AND CONDITION MUD 1 $\frac{1}{4}$., TRIP OUT 3., RUN 12 $\frac{1}{4}$ " BIT AND REAM TIGHT SPOTS 2., OPEN HOLE TO 12 $\frac{1}{4}$ " TO 2380' WITH BIT NO. 2. 3 $\frac{3}{4}$.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY:

2292' - 2546' MARL 70% : BLUISH GREY TO PALE GREEN, SOFT, STRONGLY ARGILLACEOUS. LIMESTONE 30% : PALE GREEN, CRYSTALLINE, FOSSILIFEROUS, WITH PROMINANT PYRITE GRAIN IMBEDDED IN MATRIX.

2546' - 2598' COAL 100% : LIGHT BROWN TO DARK BROWN, EARTHY, SOFT, WITH THIN INTERBEDS OF GREY CLAY.

2598' - 2638' COAL 60% & INTERBEDDED SANDSTONE 40%.

COAL : AS ABOVE BUT WITH LESS CLAY CONTENT.

SANDSTONE : COMPRISING COLOURLESS, SLIGHTLY CLOUDY, MEDIUM TO COARSE GRAINED QUARTZ SAND, SUB ANGULAR TO SUB ROUNDED, MODERATELY SORTED. NO FLUORESCENCE.

AN AVERAGE OF 8 UNITS WAS RECORDED ON THE GAS DETECTOR WHILST DRILLING THROUGH THIS SECTION.

DAILY DRILLING REPORT No.: 7.

WELL: SALT LAKE NO. 1.

Date: 18-4-'70 Depth: 2292' Footage Drilled: 405' at the rate of: 30'/HR.

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	3.	2.		
Size	8 $\frac{3}{4}$ "	12 $\frac{1}{4}$ "		
Make	Sec.	REED		
Type	S-4	YT3R		
Nozzles	Con.	Con.		
Serial No.	666313	S.12506		
Depth In	2232	1369		
Feet	60	863		
Hours	2	29		
R.P.M.	120	120		
Pump Press,	650	400		
Bit Weight	5-10,000	8		
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill	14 $\frac{3}{4}$
Trip	2 $\frac{1}{2}$
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{3}{4}$
Survey	$\frac{1}{2}$
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
Picked D/c	3
Wiper Trip	1 $\frac{1}{2}$
Circ. Sample	$\frac{3}{4}$
Repairs	$\frac{1}{4}$

PUMPS	
No. 1 S.P.M.	50
Liner Size	7 $\frac{1}{4}$ x 14
No. 2 S.P.M.	
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	9.9
Viscosity	75
Water Loss	8.1
pH	9
Sand	11%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
2°	at	2040 ft.
1 $\frac{3}{4}$ °	at	2232 ft.
	at	ft.
	at	ft.
	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE $\frac{3}{4}$ HR., SURVEY $\frac{1}{2}$., MAKE WIPER TRIP 2017 1 $\frac{1}{2}$.,
 CIRCULATE SAMPLE $\frac{3}{4}$., P.O.H. 1 $\frac{3}{4}$., ADJUST BRAKES $\frac{1}{4}$.,
 PICKED UP 6 $\frac{1}{2}$ " DRILL COLLARS 3., R.I.H. 8 $\frac{3}{4}$ " BIT $\frac{3}{4}$.,
 DRILLING 14 $\frac{3}{4}$ HRS.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

GEOLOGY: 1850' - 2050' MARL WITH CLAY AND LIMESTONE. LIMESTONE
 PYRITIC.
 2050' - 2204' MARL.
 2204' - 2240' DENSE CLAY.
 2240' - 2292' MARL - FOSSILIFEROUS, GLAUCONITIC.

013501 114

DAILY DRILLING REPORT No.: 6th

WELL: SALT LAKE NO. 1.

Date: 17-APRIL-1970
Depth: 1887

Footage Drilled: 608

at the rate of: 20-30' /hr

Nature of Operations: DRILLING

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	NO. 2	NO. 1		
Size	12 $\frac{1}{4}$ "	12 $\frac{1}{4}$ "		
Make	Reed	Reed		
Type	YT3R	YT3R		
Nozzles	CON.	CON.		
Serial No.	S12506	S12616		
Depth In	1369'	325'		
Feet	518'	1044'		
Hours	16 $\frac{1}{2}$	33		
•.M.	120	120		
Pump Press,	300	300		
Bit Weight	5-10,000	5000		
Ann. Vel.				
Condition	T B	5T 7 B 1	T B	

RIG TIME	
Drill	18 $\frac{1}{4}$
Trip	2
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{1}{2}$
Survey	$\frac{1}{2}$
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
Other	2 $\frac{3}{4}$
Repairs	

PUMPS	
No. 1 S.P.M.	60
Liner Size	7 $\frac{1}{4}$ x 14
No. 2 S.P.M.	60
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	10
Viscosity	47
Water Loss	11.2
pH	9.5
Sand	12%
Oil/Wat/Sol.	/ / /

DEVIATION SURVEYS		
1 $\frac{3}{4}$ °	at	1369 ft.
1 $\frac{3}{4}$ °	at	1550 ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

CLEAN SAND OUT OF MUD LINES

OPERATIONS:

RIG SERVICE $\frac{1}{2}$ HR., SURVEY $\frac{1}{2}$., P.O.H., CLEANED SAND FROM FILL UP LINE 1 $\frac{1}{2}$ HRS., MADE UP WELLHEAD TESTER AND PRESSURE TESTED WELLHEAD 2 $\frac{1}{2}$ HRS., R.I.H. $\frac{3}{4}$ HR., DRILLING 18 $\frac{1}{4}$ HRS.

PERSONNEL CHANGES AND VISITORS:

REMARKS:

PRESSURE TESTED WELLHEAD TO 1500 P.S.I. FOR $\frac{1}{2}$ HOURS - O.K.

GEOLOGY:

1240' - 1290' : LIMESTONE - GREY, SANDY IN PART WITH ABUNDANT FOSSIL FRAGMENTS AND GLAUCONITE GRAINS DISSEMINATED THROUGHOUT.

1290' - 1610' : MARL - LIGHT BROWN, FOSSILIFEROUS IN PATCHES MIXED WITH LESS THAN 10% FOSSILIFEROUS LIMESTONE, VARYING AMOUNTS OF CLAY AD-MIXTURES.

1610' - 1700' : LIMESTONE - WITH ABUNDANT FOSSIL FRAGMENTS AND GLAUCONITIC GRAINS ADMIXED WITH SOME MARL

1700' - 1887' : MARL WITH OCCASIONAL INTERBEDS OF CORALLINE LIMESTONE.

GEOLOG

DAILY DRILLING REPORT No.: 5

WELL: SALT LAKE NO. 1

Date: 16.4.70 Depth: 1279 ft. Footage Drilled: 603 ft. at the rate of: 30 - 35 ft./hr.

Nature of Operations:

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit	Previous Bits	
		1	
Size	12 $\frac{1}{4}$		
Make	Reed		
Type	YT3R		
Nozzles	Con.		
Serial No.	S.12616		
Depth In	325		
Feet	954		
Hours	31		
P.M.	120		
Pump Press,	300		
Bit Weight	5000		
Ann. Vel.			
Condition	T B	T B	T B

RIG TIME	
Drill	18 $\frac{3}{4}$
Trip	
Coring	
Logging	
Open hole test	
Rig. Serv.	$\frac{3}{4}$
Survey	$\frac{1}{2}$
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
Wiper Trip.	$\frac{3}{4}$
Other	2 $\frac{3}{4}$
Repairs	$\frac{1}{2}$

PUMPS	
No. 1 S.P.M.	60
Liner Size	7 $\frac{1}{4}$ x 14
No. 2 S.P.M.	
Liner Size	6 $\frac{1}{2}$ x 14

MUD PROPERTIES	
Weight	10
Viscosity	46
Water Loss	11.7
pH	10
Sand	4%
Oil/Wat/Sol.	1000 Gal.

DEVIATION SURVEYS	
° at	ft.
° at	ft.
° at	ft.
° at	ft.
° at	ft.

BREAKDOWN AND OTHER TROUBLE: AIR LINE TO GEOLOGICAL VAN

SHAKER MOTOR BURNT OUT

OPERATIONS: RIG SERVICE $\frac{3}{4}$ - SURVEY $\frac{1}{2}$ - REPAIR AIR LINE $\frac{1}{2}$ - WIPER TRIP TO SHOE FROM 826 FEET $\frac{3}{4}$ - CLEAN OUT MUD TANKS - DRILLING 18 $\frac{3}{4}$ HR.

PERSONNEL CHANGES AND VISITORS:

REMARKS: 1000 GAL. DISTILLATE ADDED TO MUD SYSTEM

GEOLOGY:

690' - 1070'	LIMESTONE, PALE GREY, POORLY CONSOLIDATED WITH ABUNDANT FOSSIL FRAGMENTS; ANGULAR QUARTZ SAND POORLY SORTED, AND SILT GRAINS COMMON, VERY LITTLE CLAY. FOSSILS ARE BRYOZOA, PELECYPODS, FORAMS AND CORALS: GLAUCONITE GRAINS DISSEMINATED THROUGHOUT.
1070' - 1210'	CALCARENITE, LIGHT GREY, SOFT, FINE-MEDIUM GRAINED, POORLY SORTED, WITH FRAGMENTS OF FOSSIL BRYOZOA, FORAMS? OCCASIONAL LARGE PELECYPOD. SCATTERED GLAUCONITE GRAINS.
1210' - 1220'	80% MARL, LIGHT GREY, SOFT, STICKY, SANDY. 20% CALCARENITE AS ABOVE.
1220' - 1279'	60% CALCARENITE AS ABOVE. 40% MARL AS ABOVE.

GEOLOG

DAILY DRILLING REPORT No.: 4.

WELL: SALT LAKE NO. 1.

Date: 15:4:'70 Depth: 676 ft. Footage Drilled: 351 ft. at the rate of: 30 ft./hr.

Nature of Operations: DRILLING.

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit	Previous Bits	
	1.		
Size	12 1/4"		
Make	Reed		
Type	YT3R		
Nozzles	Con.		
Serial No.	S, 12616		
Depth In	325		
Feet	351		
Hours	12 1/4		
R.P.M.	120		
Pump Press,	200		
Bit Weight	2		
Ann. Vel.			
Condition	T B	T B	T B

RIG TIME	
Drill	12 1/4
Trip	
Coring	
Logging	
Open hole test	
Rig. Serv.	1/4
Survey	1/4
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
W.O.C.	9 1/4
Dr. Out Shoe	1 3/4
Test Form.	1/4
Repairs	

PUMPS	
No. 1 S.P.M.	60
Liner Size	7 1/4 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	9.5
Viscosity	40
Water Loss	17.2
pH	10
Sand	.75%
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
1 1/4 °	at	522 ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: WAIT ON CEMENT 9 1/4 HRS., DRILL OUT SHOE 1 3/4., TEST FORMATION TO 400 P.S.I. - O.K. 1/4., RIG SERVICE 1/4., SURVEY 1/4., DRILLING 12 1/4.

PERSONNEL CHANGES AND VISITORS:

REMARKS: PLUG LOCATED AT 305 FEET.

B.O.Ps TESTED TO 800 P.S.I. FOR 15 MINUTES - O.K.

GEOLOGY:

325' - 390' MARL :

MEDIUM GREY, SOFT WITH INTERBEDS OF SAND AND SOME QUARTZ GRAVEL AND FOSSILIFEROUS SANDS.

390' - 540' SANDSTONE :

LIGHT BROWN, SOFT TO BRITTLE, MEDIUM TO FINE GRAINED, POORLY SORTED, FOSSIL FRAGMENTS OF BRYOZOA, PELECYPODS & FORAMS.

540' - 676' COQUINA

WITH OCCASIONAL SANDSTONE INTERBEDS, TOGETHER WITH ABUNDANT FOSSIL FRAGMENTS AS ABOVE.

813534 117

DAILY DRILLING REPORT No.:

WELL: SALT LAKE NO. 1.

Date: 14: APRIL: '70 Depth: 325

Footage Drilled: ---

at the rate of:

Nature of Operations: WAITING ON CEMENT

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	Size			
Make				
Type				
Nozzles				
Serial No.				
Depth In				
Feet				
Hours				
R.P.M.				
Pump Press,				
Bit Weight				
Ann. Vel.				
Condition	T B	T B	T B	

RIG TIME	
Drill	
Trip	1 1/2
Coring	
Logging	
Open hole test	
Rig. Serv.	
Survey	
Cut Dr. Line	
Reaming	2 3/4
Cond. mud & circulating	3/4
Running csg. & cementing	4 1/2
W.O.C.	14 1/2
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	x
No. 2 S.P.M.	
Liner Size	x

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: OPEN HOLE TO 17 1/2" TO 325 FT. 2 3/4 HRS., CIRCULATE 1/4., MAKE DUMMY TRIP 1., CIRCULATE FOR CASING 1/2., TRIP OUT 1/2., RIG UP, RUN 13 3/8" CASING TO 317' & CIRCULATE 3 3/4., CEMENT 13 3/8" CASING WITH 225 SAX CMT. 3/4., WAIT ON CEMENT 14 1/2.

PERSONNEL CHANGES AND VISITORS:

REMARKS: PLUG DOWN @ 5.25 PM., 13:4:1970.

GEOLOGY:

913534 118

DAILY DRILLING REPORT No.: 2.

WELL: SALT LAKE NO. 1.

Date: 13: APRIL: 70 Depth: 325 Footage Drilled: 295 at the rate of: 20-25' /hr.

Nature of Operations: OPENING HOLE TO 17 1/2"

Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE			
Bit No.	Present Bit	Previous Bits	
		1A	
Size	12 1/4		
Make	Reed		
Type	YT3R		
Nozzles	Con.		
Serial No.	S. 12616		
Depth In	-		
Feet	325		
Hours	13 1/2		
R.P.M.	120		
Jump Press,	200		
Bit Weight	5-10,000		
Ann. Vel.			
Condition	T B	T B	T B

RIG TIME	
Drill	13 1/2
Trip	1/2
Coring	.
Logging	
Open hole test	
Rig. Serv.	1/2
Survey	3/4
Cut Dr. Line	
Reaming	2 3/4
Cond. mud & circulating	
Running csg. & cementing	
Other - see below	6
Repairs	

PUMPS	
No. 1 S.P.M.	60
Liner Size	7 1/4 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
1 1/4°	at	100 ft.
1°	at	170 ft.
3/4°	at	325 ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG SERVICE 1/2., SURVEY 3/4., DRILLING 13 1/2., Weld FLOW NIPPLE, HOOK UP FLOW LINE AND MIX MUD 4., MIX LOST CIRCULATION MATERIAL 1., TRIP OUT 1/2., LAY DOWN 3 DRILL COLLARS AND PICK UP HOLE OPENER 1., OPEN HOLE TO 17 1/2" TO 160 FT. 2 3/4 hrs.

PERSONNEL CHANGES AND VISITORS:

REMARKS: CONDUCTOR PIPE WASHED OUT USING CELLAR JET. WILL RUN 13 3/8" CASING TO 317 FT.

GEOLOGY:

DAILY DRILLING REPORT No.: 913584 119

WELL: SALT LAKE NO. 1.

Date: 12: APRIL: 70 Depth: 30'

Footage Drilled:

at the rate of:

Nature of Operations: PREPARING TO WELD CONDUCTOR PIPE Lithology:

Transmitting Officer:

Receiving Officer:

BIT PERFORMANCE				
Bit No.	Present Bit		Previous Bits	
	Size			
Make				
Type				
Nozzles	-----			
Serial No.				
Depth In				
Feet				
Hours				
R.P.M.				
Pump Press.				
Bit Weight				
Ann. Vel.				
Condition	T B	T B	T B	T B

RIG TIME	
Drill	
Trip	
Coring	
Logging	
Open hole test	
Rig. Serv.	
Survey	
Cut Dr. Line	
Reaming	
Cond. mud & circulating	
Running csg. & cementing	
Other - see below	24
Repairs	

PUMPS	
No. 1 S.P.M.	
Liner Size	7 1/4 x 14
No. 2 S.P.M.	
Liner Size	6 1/2 x 14

MUD PROPERTIES	
Weight	
Viscosity	
Water Loss	
pH	
Sand	/
Oil/Wat/Sol.	/ /

DEVIATION SURVEYS		
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.
°	at	ft.

BREAKDOWN AND OTHER TROUBLE:

OPERATIONS: RIG UP 14 HRS., DRILL 26" HOLE TO 30', POSITION CONDUCTOR PIPE AND CEMENT WITH 25 SAX CMT. 5 HRS., RIG UP AND DRILL RATHOLE 4 1/2 HRS., PREPARE CONDUCTOR PIPE FOR WELDING 1/2 HR.

PERSONNEL CHANGES AND VISITORS:

REMARKS: RAISED MAST AT 1.40 PM. on 11/4/70.
STARTED DRILLING FOR CONDUCTOR 10.00 PM ON 11/4/'70.

GEOLOGY:

913534 120

SM:LH

6th MAY, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 FINAL 5395 TOTAL DEPTH LAYING
DOWN DRILL COLLARS AFTER PLUGGING STOP NO
HYDROCARBON INDICATIONS ON LOGS

OILCO
hy

913534 121

SM: LH

5th MAY, 1970.

TELEX TO : B.O.C. 2119
CONTINENTAL 2072

TELEGRAM TO : AGLIM

SALT LAKE NO. 1 0800 5th MAY 5395 FEET
TOTAL DEPTH LOGGING LITHOLOGY 5350 TO 5395
FEET LITHIC FELDSPATHIC SANDSTONE AND GREEN
MICACEOUS SILTSTONE STRZELECKI

OILCO

Sm.

913534 122

SM:LH

4th MAY, 1970.

TELEX TO

: B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO

: AOGLIM

SALT LAKE NO. 1 0800 4th MAY 5362 FEET DRILLING
STOP LITHOLOGY 4850 TO 5290 SANDSTONE AND COAL
5290 TO 5362 LITHIC FELDSPATHIC SANDSTONE. PRESUMED
STRZELECKI STOP

OILCO

Sm.

913534 123

SM:LH

4th MAY, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 PRESENT DEPTH APPROXIMATELY 5360
FEET REACHED TOP STRZELECKI 5290 FEET STOP
NO HYDROCARBON INDICATIONS STOP PROPOSE LOG
PLUG AND ABANDON STOP PLEASE CONFIRM AGREEMENT
SOONEST STOP NORMAL DAILY REPORT FOLLOWS

OILCO

Smz

913534 124

SM:LM

1st MAY, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 1st MAY 4850 FEET DRILLING
STOP LITHOLOGY BASALT 4730 TO 4810 FEET SANDSTONE
WITH SOME MUDSTONE 4810 TO 4850 FEET

OILCO

Sly

913534 125

SM:LH

30th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 30th APRIL 4730 FEET
DRILLING STOP LITHOLOGY SAND SHALE COAL--4569
TO 4710 WEATHERED BASALT 4710 TO 4730

OILCO

sm.

SUGGESTED PRESS RELEASE:

SALT LAKE NO. 1 IS DRILLING AHEAD AT
4730 FEET AT 0800 HOURS ON 30TH APRIL

913534 126

SM:LH

29th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 29th APRIL 4569 FEET

TRIPPING STOP LITHOLOGY SANDSTONE COAL

SHALE

OILCO

Gray

913534 127

AJMcD:MS
28:4:'70

TELEX TO ... B.O.C. 21119
CONTINENTAL 20272

TELEGRAM ... AOGLIM

SALT LAKE NO.1. 0800 28 APRIL
4320 FEET DRILLING STOP.
LITHOLOGY COAL SANDSTONE CLAY.

OILCO.

A handwritten signature in cursive script, appearing to be "Jm", is written below the typed word "OILCO.".

PB:MS
27:4:70

913534 128

TELEX TO ... B.O.C. 21119
CONTINENTAL 20272

TELEGRAM ... AOGLIM

SALT LAKE NO. 1. 0800 27 APRIL
4068 FEET TRIPPING STOP.
LITHOLOGY COAL SANDSTONE GRAVEL
CLAY.

Oilco

Massamb.

913534 129

SM:LH

24th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 24th APRIL 3458 FEET

DRILLING STOP COAL MEASURE LITHOLOGY THROUGH-
OUT

OILCO

Sm

913534 130

SM:LH

23rd APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOG LIM

SALT LAKE NO. 1 0800 23rd APRIL 3140 FEET
DRILLING STOP COAL MEASURE LITHOLOGY FROM
2550 FEET.

OILCO

dm

913534 131

SM:LH

22nd APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 22nd APRIL 2680

FEET TESTING CEMENT BOND

OILCO

fmj

913534 132

SM:LH

21st APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 21st APRIL 2680 FEET
WOC STOP 9 $\frac{1}{8}$ " CASING SET AND CEMENTED AT
2679 FEET

OILCO

Sm.

913534 133

SM:LH

20th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOG LIM

SALT LAKE NO. 1 0800 20TH APRIL 2680 FEET
LOGGING STOP TENTATIVE FORMATION TOPS LAKES
ENTRANCE 2385 FEET LVCM EQUALS ENTRY OF COAL
2550 FEET STOP NO HYDROCARBON INDICATIONS GAS
DETECTOR UP TO 10 UNITS METHANE

OILCO

Sm.

913534 134

SM:LH

17th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AONGLIM

SALT LAKE NO. 1 0800 17th APRIL 1887 FEET

DRILLING STOP LITHOLOGY MARL AND LIMESTONE

OILCO

A handwritten signature in cursive script, appearing to be 'Jm', located below the typed name 'OILCO'.

913534 135

SM:LH

16th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AGLIM

SALT LAKE NO. 1 0800 16th APRIL 1279 FEET
DRILLING STOP LITHOLOGY LIMESTONE 676 TO 1070
CALCARENITE 1070 TO 1210 MARL AND CALCARENITE
INTERBEDDED 1210 TO 1279

OILCO

dy

913534 136

SM:LM

15th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLEM

SALT LAKE NO. 1 0800 15th APRIL 676 FEET

DRILLING STOP LITHOLOGY MARL AND SAND INTERBEDDED

325 TO 390 FOSSILIFEROUS SANDSTONE 390 TO 540

SANDSTONE WITH COQUINA 540 TO 676

OILCO

fm

913534 137

SM:LH

14th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM

SALT LAKE NO. 1 0800 14th APRIL 325 FEET

13 $\frac{1}{2}$ CASING SET CEMENTED 317 FEET WOC

OILCO

Sm

913534 138

SM:LH

13th APRIL, 1970.

TELEX TO : B.O.C. 21119
CONTINENTAL 20272

TELEGRAM TO : AOGLIM
~~PLANGSL~~

SALT LAKE NO. 1 SPURRED 11TH APRIL STOP
0800 13TH DEPTH 325 FEET OPERATION REAMING
FROM $12\frac{1}{4}$ TO $17\frac{1}{2}$ AT 160 FEET

OILCO

Sm.

913534 139

MINES DEPARTMENT, VICTORIA

APPLICATION FOR PERMISSION TO DRILL
A WELL UNDER THE PETROLEUM ACT, 1958

To the Honourable the Minister of Mines:

I/we Woodside Oil N.L. being the holder/operator of Petroleum Exploration Permit/~~Petroleum Prospecting License~~ No. 72 hereby apply for your consent to drill a well for petroleum within the above area.

The following are the particulars of the proposed operation.

(a) The name and number by which the well is to be known	Salt Lake No. 1
(b) Classification of well	Stratigraphic Test Assessment Development Service
(c) The exact location of the proposed well	Latitude Longitude (accuracy \pm 3 seconds of arc) Parish: Darriman (Allot. 16)
(d) Distance from nearest tenement boundary	$\frac{1}{2}$ mile
(e) Heights above sea level (This information may be submitted later) Include:- Water depth to offshore wells	Surface Level: Approx. 50' a.s.l. Derrick Floor: 10' above ground or Rotary Table: 11'6 above ground or Kelly Bushing: 12'6 above ground
(f) Diameter of proposed well at surface	See (k) 23"
(g) Method of drilling proposed and name and type of drilling rig	Rotary Drilling - using Brewster N4 Rig.
(h) The extent to which coring is intended	1. At all significant indications of oil and gas. 2. Stratigraphic control.
(i) Name, address and telephone number of person in charge of the drilling operation	Mr. C.W. Mann, C/- Woodside Oil N.L., 151 Flinders Street, MELBOURNE. Vic. 3000. Off. 63-2421 Priv. 288-4805

913534 141

PROPOSED ENGINEERING AND GEOLOGICAL DETAILS: These may be varied according to conditions encountered during drilling operations

(j) Proposed total depth 6,000 feet

(k) Proposed engineering details of well

Hole Diameter	Casing Size	Setting Depth	Cementing proposals
26"	20'	30'	Proposed top of cement Surface
17½"	13½"	300'	Surface
12½"	9½"	2500'	1000'
8½"	7"	To be determined	To be determined if required.

(l) Proposed Logging details

Type of log

Intervals, to be logged

Run 1 Induction Electrical Log
Sonic/Gamma Ray with Calpher
Run 2 As for Run 1 plus
Continuous Dipmeter

300' - 2500'
(Gamma Ray to Surface)
2500' - TD

(m) Provision for Formation Testing
Outline of testing equipment to be stationed at well site or brief details of arrangements made for formation testing

Halliburton will have on site a complete string of Testing Tools. Tools will remain on site - engineer will be called when required.

(n) Geological supervision will be undertaken by:

Exploration Manager and Geological Staff of Woodside Oil N.L.

(o) Name and address of drilling contractor

Woodside Oil N.L. will hire drilling crew - and operate drilling unit.

(p) Proposed date of commencement of operations.

7 April 1970

I/we advise that I/we have noted Sections 25, 26 and 27 of the Regulations under the Petroleum Act, 1958, pertaining to compensation for drilling operations on private land, and the provisions in relation to safety and health of the Petroleum Act, the Mines Act and the Regulations under the Mines Act.

Yours faithfully,

Date / /

Predicted Section — SALT LAKE No. 1

DEPTH IN FEET (S.S.L.)	OBJECTIVES		SEISMIC REFLECTORS	GROSS LITHO- LOGY	FORMATION	LITHOLOGIC SUMMARY	CASING CORES	LOGS
	Second- ary	Prim- ary						
500'				[Pattern: Dotted]	POST GIPPSLAND LIMESTONE SEDIMENTS	Sands and clays Sandy marl with few limestone beds		
1000'				[Pattern: Dotted]	GIPPSLAND LIMESTONE	Marl with limestone beds		
1500'			"G" (1650')	[Pattern: Dotted]				
2000'				[Pattern: Brick]		Limestone		
2500'		X	"H" (2350')	[Pattern: Dotted]	LAKES ENTRANCE FORMATION	Marly Sandy	9 5/8"	
3000'			"K" (2575')	[Pattern: Dotted]		Sand		
3500'				[Pattern: Dotted]	LATROBE VALLEY	Coal beds and sand		
4000'			"L" (3175')	[Pattern: Dotted]				
4500'				[Pattern: Dotted]	COAL MEASURES			
5000'			"S" (4750')	[Pattern: V's]	BASALT	Basalt may be weathered to red clay in part		
5500'				[Pattern: Dotted]	CHILDERS FORMATION	Sands and gravels		
6000'				[Pattern: Dotted]	STRZELECKI GROUP	Feldspathic sandstones, siltstones mudstones and thin coal seams		
						T. D. 6,000 ft.		

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Run 1

Run 2



Sidewall
↑ cores
□ Conventional
core

PROPOSED DRILLING LOCATION

913534 1A1

SUMMARY

1. Name: Salt Lake No. 1
2. Location: See attached map
3. Estimated Total Depth: 6,000 feet
4. Estimated Cost: \$
5. Subsidy Status: In excluded area
6. Objectives:
 - (a) Possible sand above the main coal of the Latrobe Valley Coal Measures.
 - (b) Sands in the sequence below the coal measure sediments.

7. Predicted Geological Tops:

Post Gippsland Limestone Sediments	Spud
Gippsland Limestone	830'
Lakes Entrance Formation - marly unit	2,040'
Lakes Entrance Formation - sandy unit	2,200'
Latrobe Valley Coal Measures	2,220'
"Top coal in L.V.C.M."	2,450'
Basalt	4,460'
Childers Formation	?
Strzelecki Group	?

8. Comments:

The recent seismic interpretation has mapped a possible sand lying above the coal of the Latrobe Valley Coal Measures. This sand was not present in the previously drilled Darriman No. 1 well.

The primary objective of this well is this sand as mapped on the "H" horizon as a closed structure.

Below the coals of the Latrobe Valley Coal Measures the section is unpredictable and is likely to include basalt and the Childers Formation (or Golden Beach Formation) before reaching the Strzelecki Group.

The Childers/Golden Beach Formation may be draped or pinch out over the nose of this structure and thus form a better objective in this location than sands within or above the coal measures.

17th March 1970

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Mrs. E. P. Boland, Ans'd
Darriman,
Gippsland. Vic. 3851

RECEIVED
18 MAR 1970

The Secretary,
Woodside Oil N.L.,
151 Flinders Street,
MELBOURNE. VIC. 3000

FOR INFORMATION	
M. Director	
Explor. Mgr.	✓
Sec. W/S	
Sec. M.E.O.	
Date 18/3	(initials)

Dear Sir,

Authority to drill a Petroleum Exploration Bore on my property, and to carry out the necessary work pertaining thereto, is hereby granted.

Such section granted measuring 350 ft. x 350 ft. and situated on Lot 16, Parish of Darriman, Shire of Alberton, County of Buln Buln, Victoria.

This authority is given on the understanding that Woodside Oil No Liability agrees to clean and level this area on termination of drilling, and will comply in all respects to the regulations stipulated by the Victorian Mines Department.

The commencing date for this operation will be approximately the second week in April.

It is further agreed that the water well will be handed over to me for stock water use on completion of operation. However, please note that if at a later date this Company decides to return to this area, this Company retain the right to use water from this well.

Yours faithfully,

E. P. Boland

Mrs. E. P. Boland,

SUMMARY OF WELL COSTS

STRATIGRAPHIC TEST SALT LAKE NO. 1

PROJECTED DEPTH 6000'

Based on: Move....days Rig Up/Down. 5...days
 Drilling etc. 28...days

ACCOUNT DESCRIPTION	\$A
Drilling Location Preparation	4,520
Transportation - Move in	7,730
Transportation - during operation	3,735
Drilling bits	6,214
Fuel	4,000
Casing	13,431
Cement	1,102
Drilling Fluid ingredients	9,080
Miscellaneous Consumables	1,925
General Operating Costs	6,727
Rig Operating Costs	39,390
Subsurface Evaluation	19,100
Cementing	3,900
Special Engineering	5,600
Drilling Tool Rentals	275
Drilling Tool maintenance	500
Communications	850
Operations Personnel charges)	6,120
Operator's charges - Sale)	1,050
Insurance	2,800
TOTAL WELL COST	\$138,049