

6600754

LOCATION: SAN ANTONIO, TEXAS

0 0 0

HOLE NAME: LACKLD#1

DATE MEASURED: 2/16/84

DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT		I	DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT	
		DEG C	DEG F	DEG C/KM	DEG F/100 FT				DEG C	DEG F	DEG C/KM	DEG F/100 FT
150.0	492.0	26.455	79.62	0.0	0.0	I	272.5	893.0	28.252	82.85	13.6	0.7
152.5	500.2	26.523	79.74	27.2	1.5	I	275.0	902.0	28.276	82.90	9.6	0.5
155.0	508.4	26.568	79.82	18.0	1.0	I	277.5	910.2	28.311	82.96	14.0	0.8
157.5	516.6	26.626	79.93	23.2	1.3	I	280.0	918.4	28.359	83.05	19.2	1.1
160.0	524.8	26.671	80.01	18.0	1.0	I	282.5	926.6	28.391	83.10	12.8	0.7
162.5	533.0	26.712	80.08	16.4	0.9	I	285.0	934.8	28.417	83.15	10.4	0.6
165.0	541.2	26.746	80.14	13.6	0.7	I	287.5	943.0	28.448	83.21	12.4	0.7
167.5	549.4	26.780	80.20	13.6	0.7	I	290.0	951.2	28.480	83.26	12.8	0.7
170.0	557.6	26.823	80.28	17.2	0.9	I	292.5	959.4	28.474	83.25	-2.4	-0.1
172.5	565.8	26.846	80.32	9.2	0.5	I	295.0	967.6	28.502	83.30	11.2	0.6
175.0	574.0	26.862	80.35	6.4	0.4	I	297.5	975.8	28.531	83.36	11.6	0.6
177.5	582.2	26.897	80.41	14.0	0.8	I	300.0	984.0	28.568	83.42	14.8	0.8
180.0	590.4	26.911	80.44	5.6	0.3	I	302.5	992.2	28.599	83.48	12.4	0.7
182.5	598.6	26.962	80.53	20.4	1.1	I	305.0	1000.4	28.628	83.53	11.6	0.6
185.0	606.8	26.998	80.60	14.4	0.8	I	307.5	1008.6	28.667	83.60	15.6	0.9
187.5	615.0	27.036	80.66	15.2	0.8	I	310.0	1016.8	28.704	83.67	14.8	0.8
190.0	623.2	27.090	80.76	21.6	1.2	I	312.5	1025.0	28.727	83.71	9.2	0.5
192.5	631.4	27.117	80.81	10.8	0.6	I	315.0	1033.2	28.751	83.75	9.6	0.5
195.0	639.6	27.150	80.89	17.2	0.9	I	317.5	1041.4	28.785	83.81	13.6	0.7
197.5	647.8	27.218	80.99	23.2	1.3	I	320.0	1049.6	28.815	83.87	12.0	0.7
220.0	721.6	27.625	81.73	18.1	1.0	I	322.5	1057.8	28.840	83.91	10.0	0.5
222.5	729.8	27.588	81.66	-14.8	-0.8	I	325.0	1066.0	28.867	83.96	10.8	0.6
225.0	738.0	27.642	81.76	21.6	1.2	I	327.5	1074.2	28.894	84.01	10.8	0.6
227.5	746.2	27.674	81.81	12.8	0.7	I	330.0	1082.4	28.926	84.07	12.8	0.7
230.0	754.4	27.720	81.90	18.4	1.0	I	332.5	1090.6	28.953	84.12	10.8	0.6
232.5	762.6	27.740	81.93	8.0	0.4	I	335.0	1098.8	28.975	84.16	8.8	0.5
235.0	770.8	27.768	81.98	11.2	0.6	I	337.5	1107.0	29.011	84.22	14.4	0.8
237.5	779.0	27.807	82.05	15.6	0.9	I	340.0	1115.2	29.034	84.26	9.2	0.5
240.0	787.2	27.839	82.11	12.8	0.7	I	342.5	1123.4	29.074	84.33	16.0	0.9
242.5	795.4	27.862	82.15	9.2	0.5	I	345.0	1131.6	29.103	84.39	11.6	0.6
245.0	803.6	27.900	82.22	15.2	0.8	I	347.5	1139.8	29.160	84.49	22.8	1.3
247.5	811.8	27.921	82.26	8.4	0.5	I	350.0	1148.0	29.189	84.54	11.6	0.6
250.0	820.0	27.947	82.30	10.4	0.6	I	352.5	1156.2	29.248	84.65	23.6	1.3
252.5	828.2	27.976	82.36	11.6	0.6	I	355.0	1164.4	29.300	84.74	20.8	1.1
255.0	836.4	28.017	82.43	16.4	0.9	I	357.5	1172.6	29.338	84.81	15.2	0.8
257.5	844.6	28.036	82.46	7.6	0.4	I	360.0	1180.8	29.401	84.92	25.2	1.4
260.0	852.8	28.091	82.56	22.0	1.2	I	362.5	1189.0	29.421	84.96	8.0	0.4
262.5	861.0	28.119	82.61	11.2	0.6	I	365.0	1197.2	29.453	85.02	12.8	0.7
265.0	869.2	28.150	82.67	12.4	0.7	I	367.5	1205.4	29.486	85.07	13.2	0.7
267.5	877.4	28.188	82.74	15.2	0.8	I	370.0	1213.6	29.511	85.12	10.0	0.5
270.0	885.6	28.218	82.79	12.0	0.7	I	372.5	1221.8	29.538	85.17	10.8	0.6

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EPH ETERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT		I	DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT	
		DEG C	DEG F	DEG C/KM	DEG F/100 FT				DEG C	DEG F	DEG C/KM	DEG F/100 FT
375.0	1230.0	29.592	85.27	21.6	1.2	I	477.5	1566.2	30.877	87.58	38.0	2.1
377.5	1238.2	29.639	85.35	18.8	1.0	I	480.0	1574.4	30.899	87.62	8.8	0.5
380.0	1246.4	29.690	85.44	20.4	1.1	I	482.5	1582.6	30.948	87.71	19.6	1.1
382.5	1254.6	29.737	85.53	18.8	1.0	I	485.0	1590.8	30.992	87.79	17.6	1.0
385.0	1262.8	29.765	85.58	11.2	0.6	I	487.5	1599.0	31.007	87.81	6.0	0.3
387.5	1271.0	29.856	85.74	36.4	2.0	I	490.0	1607.2	31.043	87.88	14.4	0.8
390.0	1279.2	29.895	85.70	-8.4	-0.5	I	492.5	1615.4	31.074	87.93	12.4	0.7
392.5	1287.4	29.859	85.75	9.6	0.5	I	495.0	1623.6	31.120	88.02	18.4	1.0
395.0	1295.6	29.890	85.80	12.4	0.7	I	497.5	1631.8	31.076	87.94	-17.6	-1.0
397.5	1303.8	29.927	85.87	14.8	0.8	I	500.0	1640.0	31.139	88.05	25.2	1.4
400.0	1312.0	29.951	85.93	13.6	0.7	I	502.5	1648.2	31.189	88.14	20.0	1.1
402.5	1320.2	29.982	85.97	8.4	0.5	I	505.0	1656.4	31.194	88.15	2.0	0.1
405.0	1328.4	30.005	86.01	9.2	0.5	I	507.5	1664.6	31.212	88.18	7.2	0.4
407.5	1336.6	30.027	86.05	8.8	0.5	I	510.0	1672.8	31.244	88.24	12.8	0.7
410.0	1344.8	30.051	86.09	9.6	0.5	I	512.5	1681.0	31.289	88.32	18.0	1.0
412.5	1353.0	30.082	86.15	12.4	0.7	I	515.0	1689.2	31.302	88.34	5.2	0.3
415.0	1361.2	30.114	86.21	12.8	0.7	I	517.5	1697.4	31.341	88.41	15.6	0.9
417.5	1369.4	30.147	86.26	13.2	0.7	I	520.0	1705.6	31.369	88.46	11.2	0.6
420.0	1377.6	30.185	86.33	15.2	0.8	I	522.5	1713.8	31.419	88.55	20.0	1.1
422.5	1385.8	30.190	86.32	-2.0	-0.1	I	525.0	1722.0	31.446	88.60	10.8	0.6
425.0	1394.0	30.222	86.40	16.8	0.9	I	527.5	1730.2	31.505	88.71	23.6	1.3
427.5	1402.2	30.256	86.46	13.6	0.7	I	530.0	1738.4	31.502	88.70	-1.2	-0.1
430.0	1410.4	30.305	86.55	19.6	1.1	I	532.5	1746.6	31.584	88.85	32.8	1.8
432.5	1418.6	30.321	86.58	6.4	0.4	I	535.0	1754.8	31.588	88.84	-1.6	-0.1
435.0	1426.8	30.344	86.62	9.2	0.5	I	537.5	1763.0	31.609	88.90	11.6	0.6
437.5	1435.0	30.374	86.67	12.0	0.7	I	540.0	1771.2	31.642	88.96	13.2	0.7
440.0	1443.2	30.402	86.72	11.2	0.6	I	542.5	1779.4	31.655	88.98	5.2	0.3
442.5	1451.4	30.388	86.70	15.6	0.8	I	545.0	1787.6	31.677	89.02	8.8	0.5
445.0	1459.6	30.422	86.76	13.6	0.7	I	547.5	1795.8	31.714	89.09	14.8	0.8
447.5	1467.8	30.508	86.91	34.4	1.9	I	550.0	1804.0	31.711	89.08	-1.2	-0.1
450.0	1476.0	30.492	86.89	-6.4	-0.4	I	552.5	1812.2	31.728	89.11	6.8	0.4
452.5	1484.2	30.574	87.03	32.8	1.8	I	555.0	1820.4	31.747	89.14	7.6	0.4
455.0	1492.4	30.607	87.09	12.2	0.7	I	557.5	1828.6	31.806	89.25	23.6	1.3
457.5	1500.6	30.591	87.06	-6.4	-0.4	I	560.0	1836.8	31.806	89.25	0.0	0.0
460.0	1508.8	30.641	87.15	20.0	1.1	I	562.5	1845.0	31.827	89.29	8.4	0.5
462.5	1517.0	30.628	87.13	-5.2	-0.3	I	565.0	1853.2	31.857	89.34	12.0	0.7
465.0	1525.2	30.716	87.29	35.2	1.9	I	567.5	1861.4	31.891	89.40	13.6	0.7
467.5	1533.4	30.734	87.32	7.2	0.4	I	570.0	1869.6	31.932	89.48	16.4	0.9
470.0	1541.6	30.783	87.41	19.6	1.1	I	572.5	1877.8	31.982	89.57	20.0	1.1
472.5	1549.8	30.783	87.41	0.0	0.0	I	575.0	1886.0	32.016	89.63	12.6	0.7
475.0	1558.0	30.782	87.41	-0.4	-0.0	I	577.5	1894.2	32.057	89.70	16.4	0.9

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DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT		I	DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT	
		DEG C	DEG F	DEG C/KM	DEG F/100 FT				DEG C	DEG F	DEG C/KM	DEG F/100 FT
580.0	1902.4	32.097	89.77	16.0	0.9	I	682.5	2238.6	33.472	92.25	12.8	0.7
582.5	1910.6	32.125	89.83	11.2	0.6	I	685.0	2246.8	33.499	92.30	10.8	0.6
585.0	1918.8	32.155	89.88	12.0	0.7	I	687.5	2255.0	33.558	92.40	23.6	1.3
587.5	1927.0	32.184	89.93	11.6	0.6	I	690.0	2263.2	33.586	92.45	11.2	0.6
590.0	1935.2	32.207	89.97	9.2	0.5	I	692.5	2271.4	33.617	92.51	12.4	0.7
592.5	1943.4	32.234	90.02	10.8	0.6	I	695.0	2279.6	33.671	92.61	21.6	1.2
595.0	1951.6	32.266	90.08	12.8	0.7	I	697.5	2287.8	33.686	92.63	6.0	0.3
597.5	1959.8	32.300	90.14	13.6	0.7	I	700.0	2296.0	33.725	92.71	15.6	0.9
600.0	1968.0	32.327	90.19	10.8	0.6	I	702.5	2304.2	33.766	92.78	16.4	0.9
602.5	1976.2	32.364	90.26	14.0	0.8	I	705.0	2312.4	33.808	92.85	16.8	0.9
605.0	1984.4	32.399	90.32	14.0	0.8	I	707.5	2320.6	33.838	92.91	12.0	0.7
607.5	1992.6	32.438	90.39	15.6	0.9	I	710.0	2328.8	33.865	92.96	10.8	0.6
610.0	2000.8	32.479	90.46	16.4	0.9	I	712.5	2337.0	33.894	93.01	11.6	0.6
612.5	2009.0	32.518	90.53	15.6	0.9	I	715.0	2345.2	33.928	93.07	13.6	0.7
615.0	2017.2	32.544	90.58	10.4	0.6	I	717.5	2353.4	33.968	93.14	16.0	0.9
617.5	2025.4	32.565	90.62	8.4	0.5	I	720.0	2361.6	34.002	93.20	13.6	0.7
620.0	2033.6	32.589	90.66	9.6	0.5	I	722.5	2369.8	34.045	93.28	17.2	0.9
622.5	2041.8	32.614	90.71	10.0	0.5	I	725.0	2378.0	34.090	93.36	16.0	1.0
625.0	2050.0	32.644	90.76	12.0	0.7	I	727.5	2386.2	34.131	93.44	16.4	0.9
627.5	2058.2	32.677	90.82	13.2	0.7	I	730.0	2394.4	34.168	93.50	14.8	0.8
630.0	2066.4	32.715	90.89	15.2	0.8	I	732.5	2402.6	34.234	93.62	26.4	1.4
632.5	2074.6	32.738	90.93	9.2	0.5	I	735.0	2410.8	34.255	93.66	8.4	0.5
635.0	2082.8	32.780	91.00	16.8	0.9	I	737.5	2419.0	34.298	93.74	17.2	0.9
637.5	2091.0	32.822	91.08	16.8	0.9	I	740.0	2427.2	34.344	93.82	18.4	1.0
640.0	2099.2	32.863	91.15	16.4	0.9	I	742.5	2435.4	34.378	93.88	13.6	0.7
642.5	2107.4	32.901	91.22	15.2	0.8	I	745.0	2443.6	34.400	93.92	8.8	0.5
645.0	2115.6	32.938	91.29	14.8	0.8	I	747.5	2451.8	34.440	93.99	16.0	0.9
647.5	2123.8	32.983	91.37	18.0	1.0	I	750.0	2460.0	34.485	94.07	18.0	1.0
650.0	2132.0	33.022	91.44	15.6	0.9	I	752.5	2468.2	34.526	94.15	16.4	0.9
652.5	2140.2	33.054	91.50	12.8	0.7	I	755.0	2476.4	34.573	94.23	18.8	1.0
655.0	2148.4	33.093	91.57	15.6	0.9	I	757.5	2484.6	34.607	94.29	13.6	0.7
657.5	2156.6	33.126	91.63	13.2	0.7	I	760.0	2492.8	34.649	94.37	16.8	0.9
660.0	2164.8	33.187	91.74	24.4	1.3	I	762.5	2501.0	34.684	94.43	14.0	0.8
662.5	2173.0	33.194	91.75	2.8	0.2	I	765.0	2509.2	34.725	94.51	16.4	0.9
665.0	2181.2	33.271	91.89	30.8	1.7	I	767.5	2517.4	34.758	94.56	13.2	0.7
667.5	2189.4	33.265	91.88	-2.4	-0.1	I	770.0	2525.6	34.839	94.71	32.4	1.8
670.0	2197.6	33.305	91.95	16.0	0.9	I	772.5	2533.8	34.843	94.72	1.6	0.1
672.5	2205.8	33.336	92.00	12.4	0.7	I	775.0	2542.0	34.892	94.81	19.6	1.1
675.0	2214.0	33.376	92.08	16.0	0.9	I	777.5	2550.2	34.938	94.89	18.4	1.0
677.5	2222.2	33.466	92.24	36.0	2.0	I	780.0	2558.4	34.979	94.96	16.4	0.9
680.0	2230.4	33.440	92.19	-10.4	-0.6	I	782.5	2566.6	35.009	95.02	12.0	0.7

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		DEG C	DEG F	DEG C/KM	DEG F/100 FT				DEG C	DEG F	DEG C/KM	DEG F/100 FT
785.0	2574.0	35.051	95.09	16.0	0.9	I	887.5	2911.0	36.638	97.95	16.0	0.9
787.5	2583.0	35.234	95.42	73.2	4.0	I	890.0	2919.2	36.787	98.22	59.6	3.3
790.0	2591.2	35.154	95.28	-32.0	-1.0	I	892.5	2927.4	36.720	98.10	-26.0	-1.5
792.5	2599.4	35.244	95.44	36.0	2.0	I	895.0	2935.6	36.763	98.17	17.2	0.9
795.0	2607.6	35.260	95.47	6.4	0.4	I	897.5	2943.8	36.802	98.24	15.6	0.9
797.5	2615.8	35.379	95.68	47.6	2.6	I	900.0	2952.0	36.865	98.36	25.2	1.4
800.0	2624.0	35.368	95.66	4.4	-0.2	I	902.5	2960.2	36.921	98.46	22.4	1.2
802.5	2632.2	35.421	95.76	21.2	1.2	I	905.0	2968.4	36.990	98.58	27.6	1.5
805.0	2640.4	35.574	96.03	61.2	3.4	I	907.5	2976.6	37.062	98.71	28.0	1.6
807.5	2648.6	35.500	95.90	-29.6	-1.6	I	910.0	2984.8	37.147	98.86	34.0	1.9
810.0	2656.8	35.652	96.17	60.0	3.3	I	912.5	2993.0	37.202	98.96	22.0	1.2
812.5	2665.0	35.683	96.23	12.4	0.7	I	915.0	3001.2	37.362	99.25	64.0	3.5
815.0	2673.2	35.699	96.10	-29.6	-1.6	I	917.5	3009.4	37.332	99.20	-12.0	-0.7
817.5	2681.4	35.702	96.26	37.2	2.0	I	920.0	3017.6	37.483	99.47	30.0	1.6
820.0	2689.6	35.681	96.23	-8.4	-0.5	I	922.5	3025.8	37.480	99.46	-1.2	-0.1
822.5	2697.8	35.716	96.29	14.0	0.8	I	925.0	3034.0	37.450	99.41	-12.0	-0.7
825.0	2706.0	35.754	96.36	15.2	0.8	I	927.5	3042.2	37.492	99.49	16.0	0.9
827.5	2714.2	35.892	96.61	55.2	3.0	I	930.0	3050.4	37.531	99.56	15.6	0.9
830.0	2722.4	35.822	96.48	-28.0	-1.5	I	932.5	3058.6	37.703	99.87	68.0	3.8
832.5	2730.6	35.954	96.72	52.0	2.9	I	935.0	3066.8	37.619	99.71	-33.6	-1.8
835.0	2738.8	35.931	96.68	-9.2	-0.5	I	937.5	3075.0	37.667	99.80	19.2	1.1
837.5	2747.0	36.025	96.85	37.6	2.1	I	940.0	3083.2	37.737	99.93	28.0	1.5
840.0	2755.2	36.958	96.72	-26.0	-1.5	I	942.5	3091.4	37.822	100.08	34.0	1.9
842.5	2763.4	36.986	96.77	11.2	0.6	I	945.0	3099.6	38.027	100.45	82.0	4.5
845.0	2771.6	36.021	96.84	14.0	0.8	I	947.5	3107.8	37.955	100.32	-28.0	-1.6
847.5	2779.8	36.051	96.89	12.0	0.7	I	950.0	3116.0	38.027	100.45	28.0	1.6
850.0	2788.0	36.121	97.02	28.0	1.5	I	952.5	3124.2	38.217	100.79	76.0	4.2
852.5	2796.2	36.120	97.02	-0.4	-0.0	I	955.0	3132.4	38.133	100.64	-33.6	-1.8
855.0	2804.4	36.190	97.14	28.0	1.5	I	957.5	3140.6	38.316	100.97	73.2	4.0
857.5	2812.6	36.193	97.15	1.2	0.1	I	960.0	3148.8	38.358	101.04	16.0	0.9
860.0	2820.8	36.232	97.22	15.6	0.9	I	962.5	3157.0	38.256	100.86	-40.0	-2.2
862.5	2829.0	36.306	97.35	29.6	1.6	I	965.0	3165.2	38.447	101.20	76.4	4.2
865.0	2837.2	36.307	97.35	0.4	0.0	I	967.5	3173.4	38.489	101.28	16.0	0.9
867.5	2845.4	36.353	97.44	18.4	1.0	I	970.0	3181.6	38.533	101.36	17.6	1.0
870.0	2853.6	36.390	97.48	10.0	0.6	I	972.5	3189.8	38.428	101.17	-42.0	-2.3
872.5	2861.8	36.415	97.55	14.0	0.8	I	975.0	3198.0	38.469	101.24	16.4	0.9
875.0	2870.0	36.449	97.61	13.6	0.7	I	977.5	3206.2	38.650	101.57	72.4	4.0
877.5	2878.2	36.487	97.68	15.2	0.8	I	980.0	3214.4	38.551	101.99	-39.6	-2.2
880.0	2886.4	36.514	97.73	10.0	0.6	I	982.5	3222.6	38.718	101.69	66.0	3.7
882.5	2894.6	36.552	97.79	15.2	0.8	I	985.0	3230.8	38.771	101.79	21.2	1.2
885.0	2902.8	36.596	97.87	17.6	1.0	I	987.5	3239.0	38.698	101.66	-29.2	-1.6

LOCATION: SAN ANTONIO, TEXAS

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HOLE NAME: LACKLD#1
DATE MEASURED: 2/16/84

DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT		I	DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT	
		DEG C	DEG F	DEG C/KM	DEG F/100 FT				DEG C	DEG F	DEG C/KM	DEG F/100 FT
990.0	3247.2	38.723	101.70	10.0	0.5	I	1092.5	3593.4	40.572	105.03	19.2	1.1
992.5	3255.4	38.899	102.02	70.4	3.9	I	1095.0	3591.6	40.622	105.12	20.0	1.1
995.0	3263.6	38.941	102.09	16.8	0.9	I	1097.5	3599.8	40.669	105.20	18.8	1.0
997.5	3271.8	38.848	101.93	-37.2	-2.0	I	1100.0	3608.0	40.707	105.27	15.2	0.8
000.0	3280.0	39.005	102.21	62.8	3.4	I	1102.5	3616.2	40.750	105.35	17.2	0.9
002.5	3288.2	39.039	102.27	13.6	0.7	I	1105.0	3624.4	40.803	105.45	21.2	1.2
005.0	3296.4	38.985	102.17	-21.6	-1.2	I	1107.5	3632.6	40.843	105.52	16.0	0.9
007.5	3304.6	39.029	102.25	17.6	1.0	I	1110.0	3640.8	40.885	105.59	16.8	0.9
010.0	3312.8	39.216	102.59	74.8	4.1	I	1112.5	3649.0	40.927	105.67	16.8	0.9
012.5	3321.0	39.115	102.41	-40.4	-2.2	I	1115.0	3657.2	40.971	105.75	17.6	1.0
015.0	3329.2	39.313	102.76	79.2	4.3	I	1117.5	3665.4	41.016	105.83	18.0	1.0
017.5	3337.4	39.217	102.59	-38.4	-2.1	I	1120.0	3673.6	41.056	105.90	16.0	0.9
020.0	3345.6	39.265	102.68	19.2	1.1	I	1122.5	3681.8	41.093	105.97	14.8	0.8
022.5	3353.8	39.456	103.02	76.4	4.2	I	1125.0	3690.0	41.133	106.04	16.0	0.9
025.0	3362.0	39.360	102.85	-38.4	-2.1	I	1127.5	3698.2	41.174	106.11	16.4	0.9
027.5	3370.2	39.551	103.19	76.4	4.2	I	1130.0	3706.4	41.215	106.19	16.4	0.9
030.0	3378.4	39.438	102.99	-45.2	-2.5	I	1132.5	3714.6	41.259	106.27	17.6	1.0
032.5	3386.6	39.464	103.04	10.4	0.6	I	1135.0	3722.8	41.410	106.54	60.4	3.2
035.0	3394.8	39.514	103.13	20.0	1.1	I	1137.5	3731.0	41.338	106.41	-28.8	-1.6
037.5	3403.0	39.691	103.44	70.8	3.9	I	1140.0	3739.2	41.362	106.45	9.6	0.5
040.0	3411.2	39.723	103.50	12.8	0.7	I	1142.5	3747.4	41.383	106.49	8.4	0.5
042.5	3419.4	39.607	103.29	-46.4	-2.5	I	1145.0	3755.6	41.407	106.53	9.6	0.5
045.0	3427.6	39.610	103.30	1.2	0.1	I	1147.5	3763.8	41.431	106.58	9.6	0.5
047.5	3435.8	39.615	103.31	2.0	0.1	I	1150.0	3772.0	41.493	106.69	24.8	1.4
050.0	3444.0	39.764	103.58	59.6	3.3	I	1152.5	3780.2	41.493	106.69	0.0	0.0
052.5	3452.2	39.811	103.66	18.8	1.0	I	1155.0	3788.4	41.537	106.77	17.6	1.0
055.0	3460.4	39.862	103.75	20.4	1.1	I	1157.5	3796.6	41.556	106.80	7.6	0.4
057.5	3468.6	39.918	103.85	22.4	1.2	I	1160.0	3804.8	41.595	106.87	15.6	0.9
060.0	3476.8	39.964	103.94	18.4	1.0	I	1162.5	3813.0	41.626	106.93	12.4	0.7
062.5	3485.0	39.995	103.99	12.4	0.7	I	1165.0	3821.2	41.819	107.27	77.2	4.2
065.0	3493.2	40.029	104.05	13.6	0.7	I	1167.5	3829.4	41.687	107.04	-52.8	-2.9
067.5	3501.4	40.089	104.16	24.0	1.3	I	1170.0	3837.6	41.728	107.11	16.4	0.9
070.0	3509.6	40.136	104.24	18.8	1.0	I	1172.5	3845.8	41.757	107.16	11.6	0.6
072.5	3517.8	40.182	104.33	18.4	1.0	I	1175.0	3854.0	41.785	107.21	11.2	0.6
075.0	3526.0	40.222	104.40	16.0	0.9	I	1177.5	3862.2	41.816	107.27	12.4	0.7
077.5	3534.2	40.266	104.48	17.6	1.0	I	1180.0	3870.4	41.866	107.36	20.0	1.1
080.0	3542.4	40.314	104.57	19.2	1.1	I	1182.5	3878.6	41.886	107.39	7.6	0.4
082.5	3550.6	40.363	104.65	19.6	1.1	I	1185.0	3886.8	41.900	107.42	6.0	0.3
085.0	3558.8	40.412	104.74	19.6	1.1	I	1187.5	3895.0	41.919	107.45	7.6	0.4
087.5	3567.0	40.467	104.84	22.0	1.2	I	1190.0	3903.2	41.942	107.50	9.2	0.5
090.0	3575.2	40.524	104.94	22.8	1.3	I	1192.5	3911.4	41.966	107.54	9.6	0.5

LOCATION: SAN ANTONIO, TEXAS

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HOLE NAME: LACKLD#1
DATE MEASURED: 2/16/84

DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT		I	DEPTH METERS	DEPTH FEET	TEMPERATURE		GEOTHERMAL GRADIENT	
		DEG C	DEG F	DEG C/KM	DEG F/100 FT				DEG C	DEG F	DEG C/KM	DEG F/100 FT
195.0	3919.6	41.998	107.60	12.8	0.7	I	1202.5	3944.2	42.091	107.76	17.2	0.9
197.5	3927.8	42.020	107.64	8.8	0.5	I	1205.0	3952.4	42.125	107.83	13.6	0.7
200.0	3936.0	42.048	107.69	11.2	0.6	I	1207.5	3960.6	42.159	107.89	13.6	0.7

UPDATED 1980

Bldg 1016

WELL DATA				INSTALLATION: LACKLAND AFB				WELL NO. 1	
ELEVATION (Ft): 750		LOCATION LACKLAND AFB Bldg 1016				DATE CONSTR ENDED 18 APR 1942			
W E L	TYPE Drilled		DIAMETER 12" I.O.		PUMP SETTING DEPTH 120'				
	DEPTH 1609'		DRAWDOWN 9'		RECOVERY TIME				
	ORIG STATIC WATER LEVEL 73'								
TEST DATA			AIR LINES AND GAGES			SPECIFIC CAPACITY (Gal per ft):			
Well capacity: 1130 GPM		Pumping level: 67'	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Length: 120'	GPM =	DRAWDOWN		
WELL PUMPING EQUIPMENT									
P U M P	TYPE AND MAKE Layne Vertical Turbine						CAPACITY 1130 GPM		
	SUCTION (Ft): 10'		SIZE AND LENGTH 8" Lgth 10'		COLUMN: 8" x 2 1/2" x 1 1/2"				
	HEAD:			NUMBER BOWLS		SIZE AND TYPE		NO. STAGES	
Above grnd:	Below grnd:	Total:	8		12" RKHC		8		
M O T O R	SERIAL NO. 919549	TYPE U.S. Elect	MAKE U.S. Elect	HP 150	RPM 1800	FRAME 587-2	PHASE 3	CYCLES 60	VOLTAGE 440
	STANDBY POWER		MAKE CATERPILLAR		SIZE				
	HP 175	RPM 1800	DESCRIPTION Model 3306, 6 cyl, Bore 4.75, stroke 6, Ser# 66011879 Arrangement NR. 3N3209						
CASING AND WELL SCREENING MATERIAL USED						SETTING DEPTH	LENGTH EACH		
MATERIAL SETTING									
13-3/8" O.D. 54.4# CASING						850' 0"	850' 0"		
Projecting Above Surface							3' 0"		
Depth Large CASING from The surface							848' 0"		
LAP of 10" lines in 13" CASING 59' 10" Lead Seal							59' 10"		
TO Top of 10" lines from surface							788' 2"		
10 3/4" O.D. Pittsburg 40.5# Round Threaded, seamless blank Pipe						1398' 0"	609' 10"		
NOT CASED						1609' 0"	211' 0"		
Well DATA: Large CASING cemented with 750 bags PORTLAND CEMENT, HALLIBURTON. 250 bags CEMENT were used TO cement lines.									

Atch 1

FORMATIONS ENCOUNTERED DURING DRILLING	DEPTH (Ft)	STRATUM EA
Surface		3
Yellow clay	73	70
Blue shale	339	266
Blue shale and Boulders	466	137
Shale and layers lime	493	27
Shale	652	159
Blue shale Broken lime	733	81
Shale	853	120
Chalk	1029	176
Hard chalk	1110	81
Chalk	1170	60
lime	1221	51
Shale	1229	8
lime (coars)	1244	15
Shale (Eagle-Ford)	1271	27
lime (Ruda)	1295	24
lime-Broken shale	1305	10
lime lime	1328	23
lime shale (Del Rio)	1379	51
lime (Georgetown)	1403	23
Loose shale and lime (coars)	1411	9
Porous lime (Edwards)	1609	198

CHANGES MADE FROM ORIGINAL DATA

PUMP SETTING DEPTH

PUMPING EQUIPMENT

STATIC WATER LEVEL

CAPACITY

REMARKS

DRILLING COMPANY

ADDRESS

WELL DATA				INSTALLATION				WELL NO.	
ELEVATION (FT) 750				LOCATION Lackland A.F.B. Bldg # 1016				DATE CONSTR ENDED	
WELL TYPE	TYPE Drilled								
	DEPTH 1609'			DIAMETER 12" inside			PUMPSETTING DEPTH 120'		
	ORIG STATIC WATER LEVEL 73'			DRAWDOWN 9'			RECOVERY TIME		
	TEST DATA				AIR LINES AND GAGES			SPECIFIC CAPACITY (GAL PER FT)	
WELL CAPACITY 1,130 G.P.M.		PUMPING LEVEL 67'		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		LENGTH 120'		GPM DRAWDOWN =	
WELL PUMPING EQUIPMENT									
PUMP	TYPE AND MAKE Layne Vertical Turbine							CAPACITY 1,130 GPM	
	SUCTION (FT) 10'		SIZE AND LENGTH 8" Length 10'			COLUMN 8" x 2 1/2" x 1 1/2"			
	HEAD			NUMBER BOWLS		SIZE AND TYPE		NO. STAGES	
	ABOVE GRND	BELOW GRND	TOTAL	# 8		12" RKHC		* 6	
MOTOR	SERIAL NO.	TYPE	MAKE	HP	RPM	FRAME	PHASE	CYCLES	VOLTAGE
	300719	V.H.S	U.S.	100	1800	982-A	3	60	220/440
	STANDBY POWER	MAKE							SIZE
	150	1200	Waubesa	Waubesa multi-fuel gas or turbine engine					
CASING AND WELL SCREENING MATERIAL USED							SETTING DEPTH	LENGTH EACH	
Material setting 13-3/8" O.D. 54.4 Casing									
projecting above surface 2'									
Depth larger casing from the surface							848'0	850'	
Lap of 10" lines from surface 59'-10" (Lead Seal)									
788' 2" to top of 10" lines from surface 10-3/4" O.D.									
Pittsburg 40.5 # round thread seamless									
black pipe									
Larger casing cemented with 750 bags									
portland cement. Cement was used to									
cement liner.									
Engine Data: 145.6KV Waubesa Eng, Wk 61									
Watson Spicer Flex, Shaft, 39000 Johnson									
Right angle Drive.									

FORMATIONS ENCOUNTERED DURING DRILLING	DEPTH (FT)	STRATUM EA
Surface Soil		3
Yellow Clay	73	70
Blue Shale	339	266
Blue Shale + Boulders	466	127
Shale + Layers of Lime	493	27
Shale	652	159
Blue Shale + Broken Lime	733	81
Shale	853	120
Chalk	1029	176
Hard Chalk	1110	81
Chalk	1170	60
Lime	1221	51
Shale	1229	8
Lime (Cored)	1244	15
Shale (Eagle - Hard)	1271	27
Lime (Buda)	1295	24
Lime + Broken Shale	1305	10
Lime	1328	23
Shale (Del Rio)	1379	51
Lime (Sevige Town)	1402	23
Loose Shale + Lime (Cored)	1411	9
Parana Lime (Edwards)	1809	198
CHANGES MADE FROM ORIGINAL DATA		
PUMP SETTING DEPTH		
8/21/1959 pump was lowered to 180'		
PUMPING EQUIPMENT		
8/21/1959. Installed 150 HP Elect Motor. Frame 587-2. Motor # 919549		
STATIC WATER LEVEL		
SW 97' PL 82' PD 15'		
CAPACITY		
84,000 Per Hr.		
REMARKS		
adjustable chemical feeder (2-20 GPH) installed Feb 1957. Durco-man-o-lectric water softener installed Feb 1957. Model # DA 60. Sodium Chloride treatment started Feb 1957.		
July 1962 - Replaced 5 joints 8" casing 10 ft long. July 13-1962 Replaced 7 joints 2" oil tubing 5 ft long and replaced screens and sucking pipe.		
<p style="text-align: right;">1970</p> <p style="text-align: right;">1971</p> <p style="text-align: right;">1972</p> <p style="text-align: right;">1973</p> <p style="text-align: right;">1974</p> <p style="text-align: right;">1975</p> <p style="text-align: right;">1976</p> <p style="text-align: right;">1977</p> <p style="text-align: right;">1978</p> <p style="text-align: right;">1979</p> <p style="text-align: right;">1980</p>		
DRILLING COMPANY	ADDRESS	

WELL LOCATED AT: Kelly Field, Texas

Date Drilling Started: 2-23-42

Drilling Completed: 4-7-42

Date Well Started: 2-12-42

Base Well Completed: 4-18-42

Depth of Strata	Each Stratum	Formation		Material Setting
	3	Surface Soil	850'	13-3/8" O.D. 54.4# Casing
73	70	Yellow Clay	850' 0"	Projecting above surface
339	266	Blue Shale	2' 0"	Depth large casing from the surface
466	127	Blue Shale & Boulders	848' 0"	Lap of 10" liner in 13" casing
493	27	Shale & Layers	59' 10"	59' 10" (Lead Seal)
652	159	Lime Shale	788' 2"	To top of 10" liner from surface
733	81	Blue Shale-Broken Lime	1398'	609' 10"
853	120	Shale	1609'	211' 0"
1029	176	Chalk	WELL DATA: Large casing cemented with 750 bags Portland cement. Halliburton. 250 bags cement were used to cement liner.	
1110	81	Hard Chalk	PRELIMINARY TEST: Date Tested 4-13-42	
1170	60	Chalk	Static Level	(73) = 87'
1221	51	Lime	Production	1130 GPM
1229	8	Shale	PUMP DATA: Shop No. 11977	
1244	15	Lime (Cored)	Type Lubr.	Oil
1271	27	Shale (Eagleford)	Type Head	TF1025
1295	24	Lime (Buda)	Size Suction	8"
1305	10	Lime-Broken Shale	Length Suction	10'
1328	23	Lime	Depth Setting	120'
1379	51	Shale (Del Rio)	Size Column	8" x 2 1/2" x 1 1/2"
1402	23	Lime (Georgetown)	Type Bowl	12" RKHC
1411	9	Loose Shale & Lime (Cored)	Length Air Line	120'
1609	198	Porous Lime-(Edwards)	No. Stages	4
			RPM	1800

74
50
134
137
381

MOTOR DATA: HP 100, Voltage 220/440, RPM 1800, Phase 3, Type V.H.S., Cycles 60, Make U.S., Frame No. 982-A.

ENGINE DATA: 145 GCU Waukesha Engine, WL 61 Watson Spicer Flex. Shaft, #39100 Johnson Right Angle Drive.

LAYNE*TEXAS COMPANY, LTD.
DRILLERS: R. L. Vanderslice,
Jake Hodges.

WELL LOCATED AT: Kelly Field, Texas

Date Drilling Started: 2-23-42

Date Drilling Completed: 4-5-42

Date Well Started: 2-12-42

Date Well Completed: 4-18-42

Depth of Strata	Each Stratum	Formation			Material Setting
	3	Surface Soil	850'	850' 0"	13-3/8" O.D. 54.4# Casing
73	70	Yellow Clay		2' 0"	Projecting above surface
339	266	Blue Shale		848' 0"	Depth large casing from the surface
466	127	Blue Shale & Boulders		59' 10"	Lap of 10" liner in 13" casing-59' 10" (Lead Seal)
493	27	Shale & Layers			To top of 10" liner from surface
		Lime		788' 2"	10-3/4" O.D. Pittsburg 40.5#
652	159	Shale	1398'	609' 10"	Round Thread, Seamless Blank Pipe
733	81	Blue Shale-Broken Lime	1609'	211' 0"	1107 27554 2 11" 3"
853	120	Shale			
1029	176	Chalk			WELL DATA: Large casing cemented with 750 bags Portland cement. Halliburton. 250 bags cement were used to cement liner.
1110	81	Hard Chalk			
1170	60	Chalk			
1221	51	Lime			PRELIMINARY TEST: Date Tested 4-13-42
1229	8	Shale			Static Level 73'
1244	15	Lime (Cored)			Production 1130 GPM
1271	27	Shale (Eagleford)			Pumping Level 67'
1295	24	Lime (Buda)			PUMP DATA: Shop No. 11977
1305	10	Lime-Broken Shale			Type Lubr. Oil
1328	23	Lime			Type Head TF1025
1379	51	Shale (Del Rio)			Size Suction 8"
1402	23	Lime (Georgetown)			Length Suction 10'
1411	9	Loose Shale & Lime (Cored)			Depth Setting 120'
1609	198	Porous Lime-(Edwards)			Size Column 8" x 2 1/2" x 1 1/2"
					Type Bowl 12" RXHC
					Length Air Line 120'
					No. Stages 4
					RPM 1800

MOTOR DATA: HP 100, Voltage 220/440, RPM 1800, Phase 3, Type V.H.S., Cycles 60, Make U. S., Frame No. 982-A.

ENGINE DATA: 145 GKU Waukesha Engine, WL 61 Watson Spicer Flex. Shaft, #39100 Johnson Right Angle Drive.

LAYNE-TEXAS COMPANY, LTD.
DRILLERS: R. L. Vanderslice,
Jake Hodges.

Wells #	#1	#2	#3	#4
ldg #	1016	5709	3106	4070
Date Drilled	4-5-42	2-20-43	6-52	3-11-52
Depth	1609'	1911'	1755'	1545'
Casing Size	12"	12"	13-3/8"	13-3/8"
Cased Depth	848'	273"	1500'	1245'
Pump Set	120'	240'	240'	170'
Pump Reset	140'	250'	---	---
Water Bearing Formation	ED Lim	ED Lim	---	---
From --- To	1411-1609	1854-1911	1495-1755	1252-1520
Test - Static Level	73'	84'	78'	112'
Present Static Level 8-21-53	117'	116'	106'	127'
Present Drawdown 8-21-53	7'	95'	35'	9'
Pumping Ft above pump	16'	39'	99'	54'
Well in Operation	April 42	4-16-43	July 26, 51	Jun 12, 52
Elev. Top of Casing	750'	769'	759	761
Water Temperature	78°	80°	78°	76°