Ross ISR Project USNRC License Application
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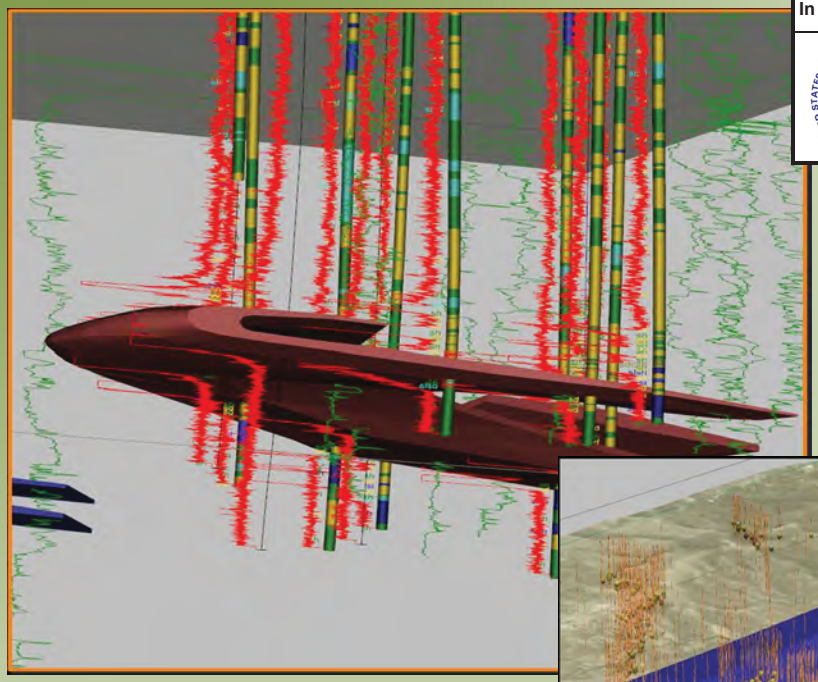

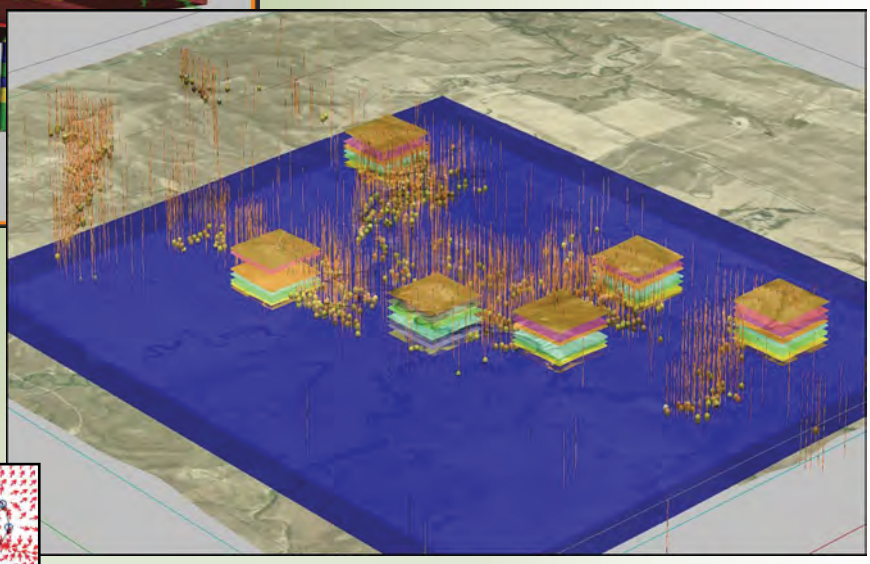

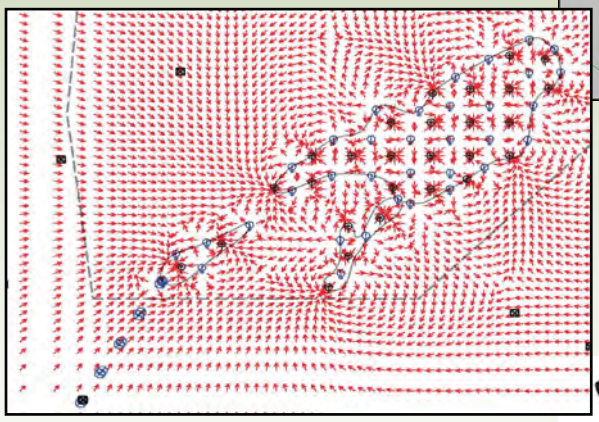

December 2010

Technical Report
Volume 4 of 6
Addenda 2.7-D through 2.7-H

STRATA ENERGY

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ADDENDUM 2.7-D

SURFACE WATER QUALITY

DATA SUMMARY

Parameter	Units	CSRES02				CSRES03					CSRES04	HBRES04 (Oshoto Reservoir)						P15507S			P15508S	P17592S
		3Q09	4Q09	2Q10	3Q10	3Q09	4Q09	2Q10	3Q10	4Q10	3Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10	2Q10	3Q10	4Q10	4Q10	4Q10
Field																						
Field Conductivity	umhos/cm	173.4	127.5	266	359	307	469	467	602	985	153.7	654	860	1265	872	890	1106	1413	1862	3640	2700	2890
Field pH	s.u.	10.24	8.4	7.92	7.36	10.19	9.2	9.47	9.78	9	9.85	9.24	9.25	8.1	8.85	9.46	9.29	9.2	9.93	10.2	9.68	9.29
Field turbidity	NTUs		49.6	620	379		8.91	4.8	15.72	101			14.23	5.13	8.42	4.32	26	31.4	596	328	86.9	23.4
Temperature	Deg C	30.4	7.5	18.3	28.8	24.6	8.2	16.7	26.6	19.8	24.2	23.4	7.9	1.7	9	23.9	16.6	10.7	25.2	20.6	18.4	19.2
Dissolved oxygen	mg/l		8	3.87	0.46		7.66	5.3	4.32	7.11			6.78		9.42	5.34	6.67	11.32		10.14	9.87	4.88
Dissolved oxygen, pct	%			42.4	6.1			54.5	54.2	79					81.8	63.9	68.8			114	105.9	52.8
General																						
Alkalinity (as CaCO3)	mg/l	72	47	113	147	117	164	136	154	346	72	301	353	444	390	430	507	639	1210	1700	1220	1090
Ammonia	mg/l	<0.1	<0.1	5.6	4	<0.1	<0.1	<0.1	0.1	0.6	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	0.2	0.1	<0.1	0.1
Fluoride	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.7	0.5	0.5
Laboratory conductivity	umhos/cm	156	108	240	327	296	441	444	544	1000	143	713	791	969	827	965	1090	1220	2010	2910	2130	2270
Laboratory pH	s.u.	7.5	7.7	8.1	7.5	10	8.6	8.7	9.2	8.5	9.5	9.1	8.8	8.3	8.7	9.2	8.9	8.9	9.2	9.9	9.4	9
Laboratory turbidity	NTUs	294	7.6	490	315	2.4	43.1	9.2	9.9	101	6.2	10.5	11.5	3.7	6.6	3.1	19.1	27.3	392	229	69.4	18.7
Laboratory Dissolved Oxygen	mg/l	<1	10			10	10				10	10	13	5								
Nitrate/Nitrite	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/l	500	110	220	370	200	290	270	420	760	100	460	520	680	560	640	730	970	1510	2320	1560	1710
Total Suspended Solids	mg/l	252	58	210	80	6	10	40	19	134	<5	12	13	7	6	<5	24	37	530	240	86	8
Major Ions																						
Calcium	mg/l	20	11	30	34	25	30	35	28	54	16	20	20	29	24	15	16	43	16	10	13	18
Magnesium	mg/l	4	2	5	7	8	14	13	12	26	4	17	18	25	20	23	24	46	42	43	36	33
Potassium	mg/l	14	9	17	23	9	13	8	14	29	7	10	12	14	11	12	14	11	31	27	16	18
Sodium	mg/l	3	<1	5	5	22	37	38	69	119	4	123	131	171	148	177	226	212	467	739	494	515
Bicarbonate	mg/l	88	58	138	179	56	190	149	106	398	64	292	385	539	429	347	520	635	1130	965	1030	1080
Carbonate	mg/l	<5	<5	<5	<5	43	5	9	41	12	11	37	23	<5	23	88	49	71	169	548	226	123
Chloride	mg/l	20	3	6	9	3	5	3	5	9	<1	8	8	9	8	7	8	7	12	21	8	20
Sulfate	mg/l	<1	<1	3	1	32	48	81	111	169	3	66	70	95	79	97	96	163	54	84	90	224
Metals																						
Aluminum, dissolved	mg/l	0.3	0.2	1.4	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, dissolved	mg/l	0.028	<0.005	0.005	0.021	0.007	<0.005	<0.005	0.012	0.022	0.009	0.01	0.006	<0.005	<0.005	0.008	0.007	0.006	0.016	0.052	0.015	0.013
Barium, dissolved	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, dissolved	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	0.3	0.4	0.2	0.2
Cadmium, dissolved	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, dissolved	mg/l	8.32	0.2	0.92	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	0.08	0.13	0.06	0.08	0.18
Iron, total	mg/l	15.1	1.68	19.7	16.7	0.08	0.22	0.42	0.45	1.32	0.46	0.12	0.14	0.1	0.25	0.07	0.13	1.14	6.28	1.06	1.3	0.77
Lead, dissolved	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Manganese, total	mg/l	1.05	0.14	0.94	1.24	<0.02	0.07	0.03	0.06	1.12	0.04	0.08	0.05	0.16	0.04	0.03	0.07	0.11	0.34	0.12	0.09	0.08
Mercury	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, dissolved	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02
Nickel, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium, dissolved	mg/l	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver, dissolved	mg/l				<0.003				<0.003	<0.003						<0.003	<0.003		<0.003	<0.003	<0.003	<0.003
Uranium, dissolved	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002	0.002	0.005	<0.001	0.006	0.006	0.007	0.007	0.009	0.008	0.019	0.021	0.087	0.027	0.02
Uranium, suspended	mg/l			<0.001	<0.001			<0.001	<0.001							<0.001		<0.001	0.003			
Vanadium, dissolved	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02
Zinc, dissolved	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Radiological																						
Lead 210, dissolved	pCi/l			<1	<1			<1	<1							<1		1.46	<1			
Lead 210, suspended	pCi/l			3.26	<1			<1	<1							<1		1.55	<1			
Polonium 210, dissolved	pCi/l			<1	<1			<1	<1							<1		<1	<1			
Polonium 210, suspended	pCi/l			<1	<1			<1	<1							<1		<1	<1			
Ra-226, dissolved	pCi/l	<2.7	<0.2	<0.2	<0.2	0.46	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.31	<0.2	<0.2	<0.2	<0.2
Ra-226, suspended	pCi/l			1.12	<0.2			<0.2	<0.2							<0.2		<0.2	0.3			
Ra-228, Dissolved	pCi/l	<1	1.22	<1	<1	<1	1.52	<1	<1	<1	<1	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Th-230, dissolved	pCi/l			<0.2	<0.2			<0.2	<0.2							<0.2		<0.2	<0.2			
Th-230, suspended	pCi/l			0.28	<0.2			<0.2	<0.2							<0.2		0.28	0.46			
Gross Alpha	pCi/l	2.15	<2	3.85	7.4	<2	<2	3.4	2.5	11.1	<2	5.1	9.1	5.5	3.1	7.34	9.5	13.6	27.3	48.7	15	16.3
Gross Beta	pCi/l	16.8	10.5	20.3	28.7	8.9	12.1	8.6	12.1	27.6	6.9	8.1	22.9	12.7	11.3	11.5	13	12.9	44.4	48.5	20	20
QA/QC																						
Anion Sum	meq/L	1.98	1.02	2.49	3.21	3.09	4.43	4.5	5.53	10.72	1.48	7.63	8.74	11.12	9.65	10.82	12.39	16.38	25.69	36.47	26.58	27.01
Cation Sum	meq/L	1.83	0.93	2.5	3.09	3.02	4.53	4.67	5.76	10.72	1.49	8.02	8.45	11.29	9.51	10.63	12.96	15.48	25.37	36.87	25.55	26.44
Total Anion/Cation Balance	%	3.94	4.62	0.16	1.81	1.16	1.13	1.92	2.04	0.01	0.34	2.47	1.68	0.76	0.72	0.92	2.24	2.83	0.62	0.55	1.97	1.07
Total Dissolved Solids (calc)	mg/l	100	50	130	170	170	250	260	330	610	80	430	470	610	520	590	690	870	1350	1950	1390	1480

Parameter	Units	SW-1		SW-2		SW-3		TSRES01	TWRES01					TWRES02		
		1Q10	2Q10	1Q10	2Q10	1Q10	2Q10	4Q09	3Q09	4Q09	2Q10	3Q10	4Q10	2Q10	3Q10	4Q10
Field																
Field Conductivity	umhos/cm	933	1200	422	1348	909	1209	2720	147.3	218	188.5	156.9	247	414	281	1801
Field pH	s.u.	8.06	8.39	7.62	8.35	8.5	8.86	8.87	9.53	8.99	10.64	9.61	9.47	9.03	10.46	10.32
Field turbidity	NTUs	14.14	9.1	11.68	3.86	14.9	16.29	63	6.76	62.4	10.85	6.05	64.4	11.91	3.22	26.5
Temperature	Deg C	1.8	9.8	3.2	7.8	2.4	10	5.5	18.6	9.2	20.5	20.2	15	15.5	21.8	18.9
Dissolved oxygen	mg/l	6.92	7.28	10.46	7.59	7.89	8.77	6.78	6.87	7.21	3.91	4.9	5.87	4.37	6.72	10.73
Dissolved oxygen, pct	%	49.9	64.6	81	63.4	57.5	78.3				44	55	59.1	44.7	77.6	116.8
General																
Alkalinity (as CaCO3)	mg/l	331	497	118	600	357	586	1080	64	95	55	59	116	183	107	732
Ammonia	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Fluoride	mg/l	0.2	0.2	<0.1	0.3	0.1	0.3	0.3	0.1	0.1	<0.1	0.1	0.2	0.1	<0.1	1.7
Laboratory conductivity	umhos/cm	795	1110	283	1250	794	1120	2000	146	213	129	133	231	397	273	1870
Laboratory pH	s.u.	8.2	8.7	8.1	8.6	8.3	8.8	8.6	8.8	8	9.2	8.7	8.5	8.6	9.8	10
Laboratory turbidity	NTUs	12.7	7.7	8.9	2.3	12.8	14.4	58.4	6.7	56.8	5.8	4.8	62	9.1	2.2	24.8
Laboratory Dissolved Oxygen	mg/l	8		10		9		12	9	13						
Nitrate/Nitrite	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/l	580	790	220	940	580	800	1360	110	120	100	100	170	250	210	1190
Total Suspended Solids	mg/l	<5	7	7	6	14	14	62	9	74	14	6	44	8	<5	<5
Major Ions																
Calcium	mg/l	17	37	14	58	24	32	41	13	19	12	11	21	38	14	5
Magnesium	mg/l	12	24	6	29	25	35	60	3	5	3	3	5	18	10	5
Potassium	mg/l	11	11	6	7	10	11	24	10	12	9	10	14	5	5	5
Sodium	mg/l	154	204	37	216	129	196	440	7	9	7	8	15	24	26	427
Bicarbonate	mg/l	404	542	144	655	435	619	1190	71	116	49	68	137	209	51	363
Carbonate	mg/l	<5	32	<5	38	<5	47	66	<5	<5	9	<5	<5	7	39	261
Chloride	mg/l	7	8	3	10	4	7	10	1	4	<1	<1	2	2	2	3
Sulfate	mg/l	98	147	26	168	92	102	136	4	8	5	5	4	28	27	235
Metals																
Aluminum, dissolved	mg/l	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	1.5
Arsenic, dissolved	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.006	<0.005	<0.005	0.006	<0.005	<0.005	0.007	<0.005
Barium, dissolved	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, dissolved	mg/l	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6
Cadmium, dissolved	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, dissolved	mg/l	0.33	0.08	0.26	0.14	0.34	0.07	0.07	0.34	0.18	0.2	0.35	<0.05	<0.05	<0.05	0.8
Iron, total	mg/l	0.95	0.37	0.64	0.32	0.87	0.58	1.95	0.78	2.62	0.43	0.64	1.35	0.37	0.06	1.29
Lead, dissolved	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Manganese, total	mg/l	0.17	0.05	0.11	0.05	0.17	0.21	0.25	0.03	0.12	0.02	0.03	0.07	0.03	0.03	0.03
Mercury	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, dissolved	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium, dissolved	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver, dissolved	mg/l											<0.003	<0.003		<0.003	<0.003
Uranium, dissolved	mg/l	0.008	0.011	0.003	0.02	0.009	0.014	0.028	<0.001	<0.001	<0.001	<0.001	0.001	0.006	0.003	0.002
Uranium, suspended	mg/l										<0.001	<0.001		<0.001	<0.001	
Vanadium, dissolved	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc, dissolved	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Radiological																
Lead 210, dissolved	pCi/l										1.29	<1		<1	<1	
Lead 210, suspended	pCi/l										<1	<1		<1	<1	
Polonium 210, dissolved	pCi/l										<1	<1		<1	<1	
Polonium 210, suspended	pCi/l										<1	<1		<1	<1	
Ra-226, dissolved	pCi/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.29	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ra-226, suspended	pCi/l										<0.2	<0.2		<0.2	<0.2	
Ra-228, Dissolved	pCi/l	<1	<1	<1	1.3	<1	<1	<1	1.25	1.34	<1	<1	<1	<1	<1	<1
Th-230, dissolved	pCi/l										<0.2	<0.2		<0.2	<0.2	
Th-230, suspended	pCi/l										<0.2	<0.2		<0.2	<0.2	
Gross Alpha	pCi/l	8.8	7.3	4	7.9	7.3	6	23	<2	2.25	<2	3.55	2.5	5.6	3.61	4.8
Gross Beta	pCi/l	8.6	9.7	6	7.4	11.2	9.8	31.4	8.7	13.1	9.3	9.26	14.3	11.6	5.99	3.9
QA/QC																
Anion Sum	meq/L	8.85	13.21	2.97	15.78	9.18	14.03	24.76	1.4	2.17	1.21	1.28	2.45	4.31	2.75	19.69
Cation Sum	meq/L	8.76	13	2.97	14.86	9.16	13.3	26.69	1.48	2.09	1.33	1.38	2.48	4.48	2.79	19.37
Total Anion/Cation Balance	%	0.48	0.8	0	2.98	0.11	2.66	3.74	2.78	1.88	4.95	3.83	0.45	1.97	0.72	0.8
Total Dissolved Solids (calc)	mg/l	500	730	160	850	500	730	1360	80	120	70	70	130	220	150	680

ADDENDUM 2.7-E

SURFACE WATER QUALITY

FIELD SHEETS AND LABORATORY REPORTS

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 02 **Date:** 8-6-09

Time: 1430

Landowner
Name: Carol Strong
Address
Phone#

Legal Location
Qtr/Qtr
SEC 19
TWN 53
RNG 67

Photos
Photo Roll **Stock** ✓
Picture #(s) 9 **Domestic**

SEO Permitted Facility Name: Bulk #2 ? **Permit No.** P1550655 ?

Location (Decimal Degrees)
Lat 44.56424
Long 104.95227
Elev. 4236

GEO XH
503790.36E
4934545.44N
4162.4'

Water Quality
pH 10.24
Cond. 173.4 MS
Temp. °C 30.4

Water Level (ft): N/A **% Combustible Gas:**

Comments: Turbidity = 522 NTU D.O. = 11.19 mg/l - Reservoir low. 12" in deepest part. Water very colored (yellowish/Brown. Not much odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 03 **Date:** 8-6-09

Time: 1600

Landowner
Name: Carol Strong
Address
Phone#

Legal Location
Qtr/Qtr #2 SESE
SEC 18
TWN 53
RNG 67

Photos

Photo Roll **Stock** ✓

Picture #(s) 10 **Domestic**

SEO Permitted Facility Name: Butte #1 **Permit No.** P175925

Location (Decimal Degrees)

Lat 44.57346	504240.04	
Long 104.94660	4935569.08N	
Elev. 4173	4103.8	

Water Quality
pH 10.19
Cond. 307
Temp. °C 24.6

Water Level (ft): N/A **% Combustible Gas:**

Comments: Turbidity = 2.52 NTU D.O. = 5.69 - Whitney (Ranch Hand) for C.S. said children were putting water into this res. Water clear with no odor.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 04 **Date:** 8-6-09

Time: 1730

Landowner
Name: Carol Strong
Address
Phone#

Legal Location
Qtr/Qtr SESE
SEC 18
TWN 53
RNG 67

Photos

Photo Roll **Stock** ✓

Picture #(s) 11 **Domestic**

SEO Permitted Facility Name: **Permit No.**

Location (Decimal Degrees)
Lat 44.57279
Long 104.94731
Elev. 4180

GEO XH
504185.47
4935496.87
4113.4'

Water Quality
pH 9.85
Cond. 153.7
Temp. °C 24.2

Water Level (ft): **% Combustible Gas:**

Comments: Turbidity = 5.77 D.O. = 5.35
small reservoir just upstream of CS RES 03

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: HB RES 04 (Oshoto Reservoir) **Date:** 10-22-09 **Time:** 1330

Landowner
Name: Harry Berger
Address
Phone#

Legal Location
Qtr/Qtr SW NE
SEC 18
TWN 53
RNG 67

Picture #(s) 4

Stock ✓

Domestic

SEO Permitted Facility Name: Oshoto Reservoir **Permit No.** P6046R

Location (Decimal Degrees)
Lat —
Long —
Elev. —

Water Quality
pH 9.25
Cond. 860 µS
Temp. °C 7.9°C
Turbidity (ntu) 14.23
D.O. (mg/L) 6.78 mg/l 57.9%

Water Level (ft): Same as last Qtr. **% Combustible Gas:** —

Casing Height (ft): — **Ambient Air Temp:** [redacted] 10.8°C

Comments: Water slightly dirty - no odor - 8 sample bottles

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TW RES 01 **Date:** 9/1 **Time:** 0945

Landowner
Name: WESLEY
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) 4

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. NP

Location (Decimal Degrees)
Lat 44.58914
Long -104.94300
Elev. 4146

Water Quality
pH 9.53
Cond. 147.3
Temp. ° C 18.6
Turbidity (ntu) 6.76
D.O. (mg/L) 6.87 mg/l / 77.3%

Water Level (ft): --

% Combustible Gas:

Casing Height (ft): --

Ambient Air Temp: 19.4

Comments: Reservoir low - (0.5 to 1.5 Ac. ft) - Lots of frogs

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/10/2009
Report ID: S0908115001

Work Order: S0908115
Project: Ross Project
Collection Date: 8/6/2009 2:30:00 PM
Lab ID: S0908115-002
Date Received: 8/7/2009 2:06:00 PM
Client Sample ID: CS RES 02
Sampler: RF
COC: 125601
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	10.24			s.u.	08/06/2009 1430	Field
Conductivity	~~178400~~ 173.4 R.F.			µmhos/cm	08/06/2009 1430	Field
Temperature	30.4			°C	08/06/2009 1430	Field
General Parameters						
pH	7.5	0.1		s.u.	08/24/2009 1326 CK	SM 4500 H B
Electrical Conductivity	156	5		µmhos/cm	08/24/2009 1326 CK	SM 2510B
Total Dissolved Solids (180)	500	10		mg/L	08/10/2009 1210 AMB	SM 2540
Solids, Total Dissolved (Calc)	100	10		mg/L	09/09/2009 1553 WN	SM 1030E
Total Suspended Solids	252	5		mg/L	08/10/2009 145 SNS	SM 2540
Alkalinity, Total (As CaCO3)	72	5		mg/L	08/11/2009 135 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	08/18/2009 1509 SK	EPA 350.1
Oxygen, Dissolved	ND	1	H	mg/L	08/07/2009 1430 KO	SM 4500-O G
Gross Alpha	2.15 ± 0.95	2		pCi/L	08/22/2009 2015 SH	SM 7110B
Gross Beta	16.8 ± 1.7	3		pCi/L	08/22/2009 2015 SH	SM 7110B
Radium 226	ND	2.7		pCi/L	08/17/2009 000 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	08/20/2009 2221 SH	Ra-05
Turbidity	294	0.1		NTU	08/07/2009 1711 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	88	5		mg/L	08/11/2009 135 CK	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	08/11/2009 135 CK	SM 2320B
Chloride	20	1		mg/L	08/12/2009 1223 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	08/24/2009 1326 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/13/2009 1546 SK	EPA 353.2
Sulfate	ND	1		mg/L	08/12/2009 1223 KO	EPA 300.0
Cations						
Calcium	20	1		mg/L	08/28/2009 1515 DG	EPA 200.7
Magnesium	4	1		mg/L	08/28/2009 1515 DG	EPA 200.7
Potassium	14	1		mg/L	08/28/2009 1515 DG	EPA 200.7
Sodium	3	1		mg/L	08/28/2009 1515 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/10/2009
Report ID: S0908115001

Work Order: S0908115
Project: Ross Project
Collection Date: 8/6/2009 2:30:00 PM
Lab ID: S0908115-002
Date Received: 8/7/2009 2:06:00 PM
Client Sample ID: CS RES 02
Sampler: RF
COC: 125601
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	1.43	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Chloride	0.54	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Fluoride	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Sulfate	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Calcium	0.99	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Magnesium	0.35	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Potassium	0.35	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Sodium	0.13	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Cation / Anion Balance						
Cation Sum	1.83	0		meq/L	09/09/2009 1553 WN	SM 1030E
Anion Sum	1.98	0		meq/L	09/09/2009 1553 WN	SM 1030E
Cation-Anion Difference	0.14	0		meq/L	09/09/2009 1553 WN	SM 1030E
Dissolved Metals						
Aluminum	0.3	0.1		mg/L	08/11/2009 008 DG	EPA 200.7
Arsenic	0.028	0.005		mg/L	08/10/2009 1144 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/10/2009 1144 MS	EPA 200.8
Boron	ND	0.1		mg/L	08/11/2009 008 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/10/2009 1144 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/11/2009 008 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/10/2009 1144 MS	EPA 200.8
Iron	8.32	0.05		mg/L	08/11/2009 008 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/10/2009 1144 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/11/2009 1244 RS	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/10/2009 1144 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/11/2009 008 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/10/2009 1144 MS	EPA 200.8
Uranium	ND	0.001		mg/L	08/10/2009 1144 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/10/2009 1144 MS	EPA 200.8
Zinc	0.05	0.01		mg/L	08/11/2009 008 DG	EPA 200.7
Total Metals - 200.2						
Iron	15.1	0.05		mg/L	08/11/2009 425 DG	EPA 200.7
Manganese	1.05	0.02		mg/L	08/11/2009 425 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/10/2009
Report ID: S0908115001

Project: Ross Project
Lab ID: S0908115-003
Client Sample ID: CS RES 03
COC: 125601

Work Order: S0908115
Collection Date: 8/6/2009 4:00:00 PM
Date Received: 8/7/2009 2:06:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	10.19			s.u.	08/06/2009 1600	Field
Conductivity	307			µmhos/cm	08/06/2009 1600	Field
Temperature	24.6			℃	08/06/2009 1600	Field
General Parameters						
pH	10.0	0.1		s.u.	08/24/2009 1330 CK	SM 4500 H B
Electrical Conductivity	296	5		µmhos/cm	08/24/2009 1330 CK	SM 2510B
Total Dissolved Solids (180)	200	10		mg/L	08/31/2009 1050 AMB	SM 2540
Solids, Total Dissolved (Calc)	170	10		mg/L	09/09/2009 1553 WN	SM 1030E
Total Suspended Solids	6	5		mg/L	08/10/2009 150 SNS	SM 2540
Alkalinity, Total (As CaCO3)	117	5		mg/L	08/11/2009 204 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	08/18/2009 1510 SK	EPA 350.1
Oxygen, Dissolved	10	1	H	mg/L	08/07/2009 1430 KO	SM 4500-O G
Gross Alpha	ND	2		pCi/L	08/22/2009 2015 SH	SM 7110B
Gross Beta	8.9 ± 1.4	3		pCi/L	08/22/2009 2015 SH	SM 7110B
Radium 226	0.46 ± 0.23	0.2		pCi/L	08/17/2009 000 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	08/20/2009 2221 SH	Ra-05
Turbidity	2.4	0.1		NTU	08/07/2009 1714 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	56	5		mg/L	08/11/2009 204 CK	SM 2320B
Alkalinity, Carbonate as CO3	43	5		mg/L	08/11/2009 204 CK	SM 2320B
Chloride	3	1		mg/L	08/27/2009 1326 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	08/11/2009 204 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/13/2009 1547 SK	EPA 353.2
Sulfate	32	1		mg/L	08/27/2009 1326 KO	EPA 300.0
Cations						
Calcium	25	1		mg/L	08/11/2009 014 DG	EPA 200.7
Magnesium	8	1		mg/L	08/11/2009 014 DG	EPA 200.7
Potassium	9	1		mg/L	08/11/2009 014 DG	EPA 200.7
Sodium	22	1		mg/L	08/11/2009 014 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/10/2009
Report ID: S0908115001

Work Order: S0908115
Project: Ross Project
Collection Date: 8/6/2009 4:00:00 PM
Lab ID: S0908115-003
Date Received: 8/7/2009 2:06:00 PM
Client Sample ID: CS RES 03
Sampler: RF
COC: 125601
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	0.91	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Carbonate as CO3	1.42	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Chloride	0.09	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Fluoride	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Sulfate	0.66	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Calcium	1.23	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Magnesium	0.63	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Potassium	0.22	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Sodium	0.93	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Cation / Anion Balance						
Cation Sum	3.02	0		meq/L	09/09/2009 1553 WN	SM 1030E
Anion Sum	3.09	0		meq/L	09/09/2009 1553 WN	SM 1030E
Cation-Anion Balance	1.16	0		%	09/09/2009 1553 WN	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	08/11/2009 014 DG	EPA 200.7
Arsenic	0.007	0.005		mg/L	08/10/2009 1148 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/10/2009 1148 MS	EPA 200.8
Boron	ND	0.1		mg/L	08/11/2009 014 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/10/2009 1148 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/11/2009 014 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/10/2009 1148 MS	EPA 200.8
Iron	ND	0.05		mg/L	08/11/2009 014 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/10/2009 1148 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/11/2009 1250 RS	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/10/2009 1148 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/11/2009 014 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/10/2009 1148 MS	EPA 200.8
Uranium	ND	0.001		mg/L	08/10/2009 1148 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/10/2009 1148 MS	EPA 200.8
Zinc	ND	0.01		mg/L	08/11/2009 014 DG	EPA 200.7
Total Metals - 200.2						
Iron	0.08	0.05		mg/L	08/11/2009 427 DG	EPA 200.7
Manganese	ND	0.02		mg/L	08/11/2009 427 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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J	Analyte detected below quantitation limits
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O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
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ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/10/2009
Report ID: S0908115001

Work Order: S0908115
Project: Ross Project
Collection Date: 8/6/2009 5:30:00 PM
Lab ID: S0908115-004
Date Received: 8/7/2009 2:06:00 PM
Client Sample ID: CS RES 04
Sampler: RF
COC: 125601
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.85			s.u.	08/06/2009 1730	Field
Conductivity	~~153700~~ 153.7 R.F.			µmhos/cm	08/06/2009 1730	Field
Temperature	24.2			°C	08/06/2009 1730	Field
General Parameters						
pH	9.5	0.1		s.u.	08/24/2009 1333 CK	SM 4500 H B
Electrical Conductivity	143	5		µmhos/cm	08/24/2009 1333 CK	SM 2510B
Total Dissolved Solids (180)	100	10		mg/L	08/31/2009 1050 AMB	SM 2540
Solids, Total Dissolved (Calc)	80	10		mg/L	09/09/2009 1553 WN	SM 1030E
Total Suspended Solids	ND	5		mg/L	08/10/2009 155 SNS	SM 2540
Alkalinity, Total (As CaCO3)	72	5		mg/L	08/11/2009 244 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	08/18/2009 1511 SK	EPA 350.1
Oxygen, Dissolved	10	1	H	mg/L	08/07/2009 1430 KO	SM 4500-O G
Gross Alpha	ND	2		pCi/L	08/23/2009 238 SH	SM 7110B
Gross Beta	6.9 ± 1.4	3		pCi/L	08/23/2009 238 SH	SM 7110B
Radium 226	0.20 ± 0.20	0.2		pCi/L	08/21/2009 1547 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	08/27/2009 2014 SH	Ra-05
Turbidity	6.2	0.1		NTU	08/07/2009 1717 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	64	5		mg/L	08/11/2009 244 CK	SM 2320B
Alkalinity, Carbonate as CO3	11	5		mg/L	08/11/2009 244 CK	SM 2320B
Chloride	ND	1		mg/L	08/27/2009 1335 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	08/11/2009 244 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/13/2009 1548 SK	EPA 353.2
Sulfate	3	1		mg/L	08/27/2009 1335 KO	EPA 300.0
Cations						
Calcium	16	1		mg/L	08/11/2009 016 DG	EPA 200.7
Magnesium	4	1		mg/L	08/11/2009 016 DG	EPA 200.7
Potassium	7	1		mg/L	08/11/2009 016 DG	EPA 200.7
Sodium	4	1		mg/L	08/11/2009 016 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- O Outside the Range of Dilutions

RL - Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

Reviewed by: Connie Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/10/2009
Report ID: S0908115001

Work Order: S0908115
Project: Ross Project
Collection Date: 8/6/2009 5:30:00 PM
Lab ID: S0908115-004
Date Received: 8/7/2009 2:06:00 PM
Client Sample ID: CS RES 04
Sampler: RF
COC: 125601
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	1.05	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Carbonate as CO3	0.37	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Chloride	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Fluoride	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Sulfate	0.05	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Calcium	0.79	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Magnesium	0.34	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Potassium	0.18	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Sodium	0.17	0.01		meq/L	09/09/2009 1553 WN	SM 1030E
Cation / Anion Balance						
Cation Sum	1.49	0		meq/L	09/09/2009 1553 WN	SM 1030E
Anion Sum	1.48	0		meq/L	09/09/2009 1553 WN	SM 1030E
Cation-Anion Difference	0.01	0		meq/L	09/09/2009 1553 WN	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	08/11/2009 016 DG	EPA 200.7
Arsenic	0.009	0.005		mg/L	08/10/2009 1151 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/10/2009 1151 MS	EPA 200.8
Boron	ND	0.1		mg/L	08/11/2009 016 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/10/2009 1151 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/11/2009 016 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/10/2009 1151 MS	EPA 200.8
Iron	0.10	0.05		mg/L	08/11/2009 016 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/10/2009 1151 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/11/2009 1251 RS	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/10/2009 1151 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/11/2009 016 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/10/2009 1151 MS	EPA 200.8
Uranium	ND	0.001		mg/L	08/10/2009 1151 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/10/2009 1151 MS	EPA 200.8
Zinc	ND	0.01		mg/L	08/11/2009 016 DG	EPA 200.7
Total Metals - 200.2						
Iron	0.46	0.05		mg/L	08/11/2009 430 DG	EPA 200.7
Manganese	0.04	0.02		mg/L	08/11/2009 430 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson

Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/26/2009
Report ID: S0908047002
(Replaces S0908047001)
Work Order: S0908047
Collection Date: 8/4/2009 1:50:00 PM
Date Received: 8/5/2009 8:17:00 AM
Sampler: RF
Matrix: Water

Project: Ross Project
Lab ID: S0908047-002
Client Sample ID: HB RES 04 (Oshoto Reservoir)
COC: 125599

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.24			s.u.	08/04/2009 1350	Field
Conductivity	654			µmhos/cm	08/04/2009 1350	Field
Temperature	23.4			℃	08/04/2009 1350	Field
General Parameters						
pH	9.1	0.1		s.u.	08/06/2009 000 CK	SM 4500 H B
Electrical Conductivity	713	5		µmhos/cm	08/06/2009 000 CK	SM 2510B
Total Dissolved Solids (180)	460	10		mg/L	08/05/2009 1520 MJH	SM 2540
Solids, Total Dissolved (Calc)	430	10		mg/L	08/20/2009 1555 WN	SM 1030E
Total Suspended Solids	12	5		mg/L	08/06/2009 1015 SNS	SM 2540
Alkalinity, Total (As CaCO3)	301	5		mg/L	08/06/2009 1602 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	08/04/2009 000 SK	EPA 350.1
Oxygen, Dissolved	10	1	H	mg/L	08/18/2009 000 CJM	SM 4500-O G
Gross Alpha	5.1 ± 1.4	2		pCi/L	08/16/2009 827 SH	SM 7110B
Gross Beta	8.1 ± 2.0	3		pCi/L	08/16/2009 827 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	08/12/2009 1827 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	08/14/2009 118 SH	Ra-05
Turbidity	10.5	0.1		NTU	08/05/2009 1232 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	292	5		mg/L	08/06/2009 1602 CK	SM 2320B
Alkalinity, Carbonate as CO3	37	5		mg/L	08/06/2009 1602 CK	SM 2320B
Chloride	8	1		mg/L	08/11/2009 826 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	08/06/2009 1602 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/13/2009 1322 SK	EPA 353.2
Sulfate	66	1		mg/L	08/11/2009 826 KO	EPA 300.0
Cations						
Calcium	20	1		mg/L	08/05/2009 2213 DG	EPA 200.7
Magnesium	17	1		mg/L	08/05/2009 2213 DG	EPA 200.7
Potassium	10	1		mg/L	08/05/2009 2213 DG	EPA 200.7
Sodium	123	1		mg/L	08/05/2009 2213 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- S Spike Recovery outside accepted recovery limits

RL - Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/26/2009
Report ID: S0908047002
(Replaces S0908047001)
Work Order: S0908047
Collection Date: 8/4/2009 1:50:00 PM
Date Received: 8/5/2009 8:17:00 AM
Sampler: RF
Matrix: Water

Project: Ross Project
Lab ID: S0908047-002
Client Sample ID: HB RES 04 (Oshoto Reservoir)
COC: 125599

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	4.78	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Carbonate as CO3	1.22	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Chloride	0.23	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Fluoride	ND	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Sulfate	1.37	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Calcium	1.00	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Magnesium	1.41	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Potassium	0.25	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Sodium	5.34	0.01		meq/L	08/20/2009 1555 WN	SM 1030E
Cation / Anion Balance						
Cation Sum	8.02	0		meq/L	08/20/2009 1555 WN	SM 1030E
Anion Sum	7.63	0		meq/L	08/20/2009 1555 WN	SM 1030E
Cation-Anion Balance	2.47	0		%	08/20/2009 1555 WN	SM 1030E
Cation-Anion Difference	0.38	0		meq/L	08/20/2009 1555 WN	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	08/05/2009 2213 DG	EPA 200.7
Arsenic	0.010	0.005		mg/L	08/05/2009 1556 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/05/2009 1556 MS	EPA 200.8
Boron	ND	0.1		mg/L	08/05/2009 2213 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/05/2009 1556 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/05/2009 2213 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/05/2009 1556 MS	EPA 200.8
Iron	ND	0.05		mg/L	08/05/2009 2213 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/05/2009 1556 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/07/2009 1241 RS	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/05/2009 1556 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/05/2009 2213 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/05/2009 1556 MS	EPA 200.8
Uranium	0.006	0.001		mg/L	08/05/2009 1556 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/05/2009 1556 MS	EPA 200.8
Zinc	ND	0.01		mg/L	08/05/2009 2213 DG	EPA 200.7
Total Metals - 200.2						
Iron	0.12	0.05		mg/L	08/24/2009 2319 DG	EPA 200.7
Manganese	0.08	0.02		mg/L	08/24/2009 2319 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- S Spike Recovery outside accepted recovery limits

RL - Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/23/2009
Report ID: S0909036001

Work Order: S0909036
Project: Ross Project
Collection Date: 9/1/2009 9:45:00 AM
Lab ID: S0909036-001
Date Received: 9/2/2009 8:44:00 AM
Client Sample ID: TW RES 01
Sampler: RF
COC: 125607
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.53			s.u.	09/01/2009 945	Field
Conductivity	147.3			µmhos/cm	09/01/2009 945	Field
Dissolved Oxygen	6.87			mg/L	09/01/2009 945	Field
Turbidity	6.76			NTU	09/01/2009 945	Field
Temperature	18.6			°C	09/01/2009 945	Field
General Parameters						
pH	8.8	0.1		s.u.	09/03/2009 1553 CK	SM 4500 H B
Electrical Conductivity	146	5		µmhos/cm	09/03/2009 1553 CK	SM 2510B
Total Dissolved Solids (180)	110	10		mg/L	09/02/2009 1525 SNS	SM 2540
Solids, Total Dissolved (Calc)	80	10		mg/L	09/09/2009 1148 KO	SM 1030E
Total Suspended Solids	9	5		mg/L	09/02/2009 1425 SNS	SM 2540
Alkalinity, Total (As CaCO3)	64	5		mg/L	09/03/2009 1553 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	09/09/2009 1204 SK	EPA 350.1
Oxygen, Dissolved	9	1	H	mg/L	09/02/2009 000 CJM	SM 4500-O G
Gross Alpha	ND	2		pCi/L	09/16/2009 2211 SH	SM 7110B
Gross Beta	8.7 ± 1.4	3		pCi/L	09/16/2009 2211 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	09/17/2009 000 SH	SM 7500-Ra B
Total Radium 228	1.25 ± 0.48	1		pCi/L	09/23/2009 107 SH	Ra-05
Turbidity	6.7	0.1		NTU	09/02/2009 1157 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	71	5		mg/L	09/03/2009 1553 CK	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	09/03/2009 1553 CK	SM 2320B
Chloride	1	1		mg/L	09/02/2009 1735 KO	EPA 300.0
Fluoride	0.1	0.1		mg/L	09/03/2009 1553 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	09/10/2009 1426 SK	EPA 353.2
Sulfate	4	1		mg/L	09/02/2009 1735 KO	EPA 300.0
Cations						
Calcium	13	1		mg/L	09/02/2009 2241 DG	EPA 200.7
Magnesium	3	1		mg/L	09/02/2009 2241 DG	EPA 200.7
Potassium	10	1		mg/L	09/02/2009 2241 DG	EPA 200.7
Sodium	7	1		mg/L	09/02/2009 2241 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- O Outside the Range of Dilutions

RL - Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 9/23/2009
Report ID: S0909036001

Project: Ross Project
Lab ID: S0909036-001
Client Sample ID: TW RES 01
COC: 125607

Work Order: S0909036
Collection Date: 9/1/2009 9:45:00 AM
Date Received: 9/2/2009 8:44:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	1.15	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Chloride	0.04	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Fluoride	ND	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Sulfate	0.07	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Calcium	0.62	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Magnesium	0.28	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Potassium	0.26	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Sodium	0.30	0.01		meq/L	09/09/2009 1148 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	1.48	0		meq/L	09/09/2009 1148 KO	SM 1030E
Anion Sum	1.40	0		meq/L	09/09/2009 1148 KO	SM 1030E
Cation-Anion Difference	0.07	0		meq/L	09/09/2009 1148 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	09/02/2009 2241 DG	EPA 200.7
Arsenic	0.006	0.005		mg/L	09/02/2009 1230 MS	EPA 200.8
Barium	ND	0.5		mg/L	09/02/2009 1230 MS	EPA 200.8
Boron	ND	0.1		mg/L	09/02/2009 2241 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	09/02/2009 1230 MS	EPA 200.8
Chromium	ND	0.01		mg/L	09/02/2009 2241 DG	EPA 200.7
Copper	ND	0.01		mg/L	09/02/2009 1230 MS	EPA 200.8
Iron	0.34	0.05		mg/L	09/02/2009 2241 DG	EPA 200.7
Lead	ND	0.02		mg/L	09/02/2009 1230 MS	EPA 200.8
Mercury	ND	0.001		mg/L	09/04/2009 923 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	09/02/2009 1230 MS	EPA 200.8
Nickel	ND	0.01		mg/L	09/02/2009 2241 DG	EPA 200.7
Selenium	0.005	0.005		mg/L	09/02/2009 1230 MS	EPA 200.8
Uranium	ND	0.001		mg/L	09/02/2009 1230 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	09/02/2009 1230 MS	EPA 200.8
Zinc	ND	0.01		mg/L	09/02/2009 2241 DG	EPA 200.7
Total Metals - 200.2						
Iron	0.78	0.05		mg/L	09/04/2009 453 DG	EPA 200.7
Manganese	0.03	0.02		mg/L	09/04/2009 453 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie Mattson
Connie Mattson, Project Manager

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 02 **Date:** 10-23-09 **Time:** 1200

Landowner
Name: Carol Strong
Address
Phone#

Legal Location
Qtr/Qtr SW NE
SEC 19
TWN 53
RNG 67

Picture #(s) 1

Stock

Domestic

SEO Permitted Facility Name: NP

Permit No. NP

Location (Decimal Degrees)
Lat
Long
Elev.
} already taken

Water Quality
pH [redacted] 8.40
Cond. 127.5 µS
Temp. ° C 7.5
Turbidity (ntu) 49.6
D.O. (mg/L) 8.00 mg/l / 64.8 %

Water Level (ft): —

% Combustible Gas: —

Casing Height (ft): —

Ambient Air Temp:

Comments: Reservoir low - 100 x 60 x 3 ? - Water [redacted] is dirty - no odor - 8 sample bottles

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 03 **Date:** 10-23-09 **Time:** 1300

Landowner
Name: Carol Strong
Address
Phone#

Legal Location
Qtr/Qtr SESE
SEC 18
TWN 53
RNG 67

Picture #(s) 2

Stock ✓

Domestic

SEO Permitted Facility Name: NP **Permit No.** NP

Location (Decimal Degrees)
Lat
Long
Elev.
} already taken

Water Quality
pH 9.20
Cond. 469 µS
Temp. °C 8.2
Turbidity (ntu) 8.91
D.O. (mg/L) 7.66 mg/l / 66.4%

Water Level (ft): —
% Combustible Gas: —
Casing Height (ft): —
Ambient Air Temp: 9.4°C

Comments: Reservoir low - Water slightly dirty - no odor - Took sample at CS RES 03, but not at CS RES 04 since they are close to each other. Water spills from 04 into 03. - 8 sample bottles

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: HB RES 04 (Oshoto Reservoir) **Date:** 10-22-09 **Time:** 1330

Landowner
Name: Harry Berger
Address _____
Phone# _____

Legal Location
Qtr/Qtr SW NE
SEC 18
TWN 53
RNG 67

Picture #(s) 4

Stock ✓

Domestic _____

SEO Permitted Facility Name: Oshoto Reservoir **Permit No.** P60466R

Location (Decimal Degrees)
Lat —
Long —
Elev. —

Water Quality
pH 9.25
Cond. 860 µS
Temp. °C 7.9°C
Turbidity (ntu) 14.23
D.O. (mg/L) 6.78mg/L 57.9%

Water Level (ft): Same as last Qtr. **% Combustible Gas:** —

Casing Height (ft): — **Ambient Air Temp:** [redacted] 10.8°C

Comments: Water slightly dirty - no odor - 8 sample bottles

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TS RES 01 **Date:** 10-22-09 **Time:** 1100

Landowner
Name: Tony Swonda
Address
Phone#

Legal Location
Qtr/Qtr NESW
SEC 13
TWN 53
RNG 68

Picture #(s) 2

Stock ✓

Domestic

SEO Permitted Facility Name: —

Permit No. —

Location (Decimal Degrees)
Lat N 44.57734 GEO XH YES
Long W 105.97478
Elev. 4198

Water Quality
pH 8.87
Cond. 2.72 mS
Temp. °C 5.5
Turbidity (ntu) 63.0
D.O. (mg/L) 6.78 mg/L / 59.0%

Water Level (ft): —

% Combustible Gas: —

Casing Height (ft): —

Ambient Air Temp: [redacted]°C 7.5°C

Comments: Reservoir Full and spilling - water dirty - no odor - small reservoir 200' x 250' x 4'?
B sample bottles

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TW RES 01 **Date:** 10-22-09 **Time:** 1200

Landowner
Name: TJ Wesley
Address _____
Phone# _____

Legal Location
Qtr/Qtr SESE
SEC 7
TWN 53
RNG 67

Picture #(s) 3

Stock ✓

Domestic _____

SEO Permitted Facility Name: —— **Permit No.** ——

Location (Decimal Degrees)
Lat _____
Long _____
Elev. _____

Water Quality
pH 8.99
Cond. 218 µS
Temp. °C 9.2
Turbidity (ntu) 62.4
D.O. (mg/L) 7.21 mg/l / 63.3 %

Water Level (ft): 1/8 ~~full~~ full

% Combustible Gas: ——

Casing Height (ft): ——

Ambient Air Temp: 7.5°C

Comments: Reservoir low - small 80' x 100' x 2' ?
water dirty - no odor - 8 sample bottles

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910365001

Work Order: S0910365
Project: Ross Project
Collection Date: 10/23/2009 12:00:00 PM
Lab ID: S0910365-001
Date Received: 10/23/2009 4:17:00 PM
Client Sample ID: CS RES 02
Sampler: RF
COC: 130767
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.40			s.u.	10/23/2009 1200	Field
Conductivity	1275			µmhos/cm	10/23/2009 1200	Field
Dissolved Oxygen	8.00			mg/L	10/23/2009 1200	Field
Turbidity	49.6			NTU	10/23/2009 1200	Field
Temperature	7.5			℃	10/23/2009 1200	Field
General Parameters						
pH	7.7	0.1		s.u.	10/26/2009 2024 CK	SM 4500 H B
Electrical Conductivity	108	5		µmhos/cm	10/26/2009 2024 CK	SM 2510B
Total Dissolved Solids (180)	110	10		mg/L	10/26/2009 1140 AMB	SM 2540
Solids, Total Dissolved (Calc)	50	10		mg/L	11/02/2009 1223 KO	SM 1030E
Total Suspended Solids	58	5		mg/L	10/27/2009 055 SNS	SM 2540
Alkalinity, Total (As CaCO3)	47	5		mg/L	10/26/2009 2024 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/30/2009 1301 SK	EPA 350.1
Oxygen, Dissolved	10	1		mg/L	10/23/2009 1636 KO	SM 4500-O G
Gross Alpha	ND	2		pCi/L	11/09/2009 000 SH	SM 7110B
Gross Beta	10.5 ± 1.5	3		pCi/L	11/09/2009 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	11/06/2009 2034 SH	SM 7500-Ra B
Total Radium 228	1.22 ± 0.83	1		pCi/L	11/11/2009 245 SH	Ra-05
Turbidity	7.6	0.1		NTU	10/23/2009 1707 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	58	5		mg/L	10/26/2009 2024 CK	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	10/26/2009 2024 CK	SM 2320B
Chloride	3	1		mg/L	10/26/2009 1625 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	10/26/2009 2024 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/28/2009 1603 SK	EPA 353.2
Sulfate	ND	1		mg/L	10/26/2009 1625 KO	EPA 300.0
Cations						
Calcium	11	1		mg/L	10/28/2009 1919 DG	EPA 200.7
Magnesium	2	1		mg/L	10/28/2009 1919 DG	EPA 200.7
Potassium	9	1		mg/L	10/28/2009 1919 DG	EPA 200.7
Sodium	ND	1		mg/L	10/28/2009 1919 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910365001

Project: Ross Project
Lab ID: S0910365-001
Client Sample ID: CS RES 02
COC: 130767

Work Order: S0910365
Collection Date: 10/23/2009 12:00:00 PM
Date Received: 10/23/2009 4:17:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	0.94	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Chloride	0.07	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Fluoride	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Sulfate	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Calcium	0.52	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Magnesium	0.18	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Potassium	0.22	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Sodium	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	0.93	0		meq/L	11/02/2009 1223 KO	SM 1030E
Anion Sum	1.02	0		meq/L	11/02/2009 1223 KO	SM 1030E
Cation-Anion Difference	0.08	0		meq/L	11/02/2009 1223 KO	SM 1030E
Dissolved Metals						
Aluminum	0.2	0.1		mg/L	10/28/2009 1919 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	10/26/2009 1121 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/26/2009 1121 MS	EPA 200.8
Boron	ND	0.1		mg/L	10/28/2009 1919 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/26/2009 1121 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/28/2009 1919 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/26/2009 1121 MS	EPA 200.8
Iron	0.20	0.05		mg/L	10/28/2009 1919 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/26/2009 1121 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/27/2009 1101 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/26/2009 1121 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/28/2009 1919 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/26/2009 1121 MS	EPA 200.8
Uranium	ND	0.001		mg/L	10/26/2009 1121 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/26/2009 1121 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/28/2009 1919 DG	EPA 200.7
Total Metals						
Iron	1.68	0.05		mg/L	10/29/2009 116 DG	EPA 200.7
Manganese	0.14	0.02		mg/L	10/29/2009 116 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910365001

Project: Ross Project
Lab ID: S0910365-002
Client Sample ID: CS RES 03
COC: 130767

Work Order: S0910365
Collection Date: 10/23/2009 1:00:00 PM
Date Received: 10/23/2009 4:17:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.20			s.u.	10/23/2009 1300	Field
Conductivity	469			µmhos/cm	10/23/2009 1300	Field
Dissolved Oxygen	7.66			mg/L	10/23/2009 1300	Field
Turbidity	8.91			NTU	10/23/2009 1300	Field
Temperature	8.2			℃	10/23/2009 1300	Field
General Parameters						
pH	8.6	0.1		s.u.	10/26/2009 2045 CK	SM 4500 H B
Electrical Conductivity	441	5		µmhos/cm	10/26/2009 2045 CK	SM 2510B
Total Dissolved Solids (180)	290	10		mg/L	10/26/2009 1145 AMB	SM 2540
Solids, Total Dissolved (Calc)	250	10		mg/L	11/02/2009 1223 KO	SM 1030E
Total Suspended Solids	10	5		mg/L	10/27/2009 105 SNS	SM 2540
Alkalinity, Total (As CaCO3)	164	5		mg/L	10/26/2009 2045 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/30/2009 1302 SK	EPA 350.1
Oxygen, Dissolved	10	1		mg/L	10/23/2009 1636 KO	SM 4500-O G
Gross Alpha	ND	2		pCi/L	11/09/2009 000 SH	SM 7110B
Gross Beta	12.1 ± 1.6	3		pCi/L	11/09/2009 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	11/09/2009 1721 SH	SM 7500-Ra B
Total Radium 228	1.52 ± 0.84	1		pCi/L	11/11/2009 245 SH	Ra-05
Turbidity	43.1	0.1		NTU	10/23/2009 1710 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	190	5		mg/L	10/26/2009 2045 CK	SM 2320B
Alkalinity, Carbonate as CO3	5	5		mg/L	10/26/2009 2045 CK	SM 2320B
Chloride	5	1		mg/L	10/26/2009 1719 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	10/26/2009 2045 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/28/2009 1610 SK	EPA 353.2
Sulfate	48	1		mg/L	10/26/2009 1719 KO	EPA 300.0
Cations						
Calcium	30	1		mg/L	10/28/2009 1922 DG	EPA 200.7
Magnesium	14	1		mg/L	10/28/2009 1922 DG	EPA 200.7
Potassium	13	1		mg/L	10/28/2009 1922 DG	EPA 200.7
Sodium	37	1		mg/L	10/28/2009 1922 DG	EPA 200.7

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Reviewed by: Connie Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910365001

Project: Ross Project
Lab ID: S0910365-002
Client Sample ID: CS RES 03
COC: 130767

Work Order: S0910365
Collection Date: 10/23/2009 1:00:00 PM
Date Received: 10/23/2009 4:17:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	3.11	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Carbonate as CO3	0.17	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Chloride	0.14	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Fluoride	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Sulfate	0.99	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Calcium	1.47	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Magnesium	1.12	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Potassium	0.32	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Sodium	1.60	0.01		meq/L	11/02/2009 1223 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	4.53	0		meq/L	11/02/2009 1223 KO	SM 1030E
Anion Sum	4.43	0		meq/L	11/02/2009 1223 KO	SM 1030E
Cation-Anion Balance	1.13	0		%	11/02/2009 1223 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/28/2009 1922 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	10/26/2009 1131 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/26/2009 1131 MS	EPA 200.8
Boron	ND	0.1		mg/L	10/28/2009 1922 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/26/2009 1131 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/28/2009 1922 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/26/2009 1131 MS	EPA 200.8
Iron	ND	0.05		mg/L	10/28/2009 1922 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/26/2009 1131 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/27/2009 1103 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/26/2009 1131 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/28/2009 1922 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/26/2009 1131 MS	EPA 200.8
Uranium	0.002	0.001		mg/L	10/26/2009 1131 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/26/2009 1131 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/28/2009 1922 DG	EPA 200.7
Total Metals						
Iron	0.22	0.05		mg/L	10/29/2009 125 DG	EPA 200.7
Manganese	0.07	0.02		mg/L	10/29/2009 125 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910346001

Project: Ross Project
Lab ID: S0910346-002
Client Sample ID: HB RES 04 (Oshoto Reservoir)
COC: 131108

Work Order: S0910346
Collection Date: 10/22/2009 1:30:00 PM
Date Received: 10/22/2009 3:33:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.25			s.u.	10/22/2009 1330	Field
Conductivity	860			µmhos/cm	10/22/2009 1330	Field
Dissolved Oxygen	6.78			mg/L	10/22/2009 1330	Field
Turbidity	14.23			NTU	10/22/2009 1330	Field
Temperature	7.9			℃	10/22/2009 1330	Field
General Parameters						
pH	8.8	0.1		s.u.	10/26/2009 1654 CK	SM 4500 H B
Electrical Conductivity	791	5		µmhos/cm	10/26/2009 1654 CK	SM 2510B
Total Dissolved Solids (180)	520	10		mg/L	10/26/2009 925 AMB	SM 2540
Solids, Total Dissolved (Calc)	470	10		mg/L	10/30/2009 851 KO	SM 1030E
Total Suspended Solids	13	5		mg/L	10/27/2009 035 SNS	SM 2540
Alkalinity, Total (As CaCO3)	353	5		mg/L	10/26/2009 1654 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/30/2009 1220 SK	EPA 350.1
Oxygen, Dissolved	13	1	H	mg/L	10/23/2009 1100 KO	SM 4500-O G
Gross Alpha	9.1 ± 3.2	2		pCi/L	11/09/2009 000 SH	SM 7110B
Gross Beta	22.9 ± 3.0	3		pCi/L	11/09/2009 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	11/09/2009 2030 SH	SM 7500-Ra B
Total Radium 228	1.10 ± 0.70	1		pCi/L	11/10/2009 2145 SH	Ra-05
Turbidity	11.5	0.1		NTU	10/23/2009 1555 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	385	5		mg/L	10/26/2009 1654 CK	SM 2320B
Alkalinity, Carbonate as CO3	23	5		mg/L	10/26/2009 1654 CK	SM 2320B
Chloride	8	1		mg/L	10/23/2009 1354 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	10/26/2009 1654 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/28/2009 1525 SK	EPA 353.2
Sulfate	70	1		mg/L	10/23/2009 1354 KO	EPA 300.0
Cations						
Calcium	20	1		mg/L	10/29/2009 220 DG	EPA 200.7
Magnesium	18	1		mg/L	10/29/2009 220 DG	EPA 200.7
Potassium	12	1		mg/L	10/29/2009 220 DG	EPA 200.7
Sodium	131	1		mg/L	10/29/2009 220 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910346001

Project: Ross Project
Lab ID: S0910346-002
Client Sample ID: HB RES 04 (Oshoto Reservoir)
COC: 131108

Work Order: S0910346
Collection Date: 10/22/2009 1:30:00 PM
Date Received: 10/22/2009 3:33:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	6.30	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Carbonate as CO3	0.75	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Chloride	0.21	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Fluoride	ND	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Sulfate	1.46	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Calcium	1.00	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Magnesium	1.47	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Potassium	0.29	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Sodium	5.67	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	8.45	0		meq/L	10/30/2009 851 KO	SM 1030E
Anion Sum	8.74	0		meq/L	10/30/2009 851 KO	SM 1030E
Cation-Anion Balance	1.68	0		%	10/30/2009 851 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/23/2009 1531 MS	EPA 200.7
Arsenic	0.006	0.005		mg/L	10/23/2009 1629 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/23/2009 1629 MS	EPA 200.8
Boron	0.1	0.1		mg/L	10/23/2009 1531 MS	EPA 200.7
Cadmium	ND	0.002		mg/L	10/23/2009 1629 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/23/2009 1531 MS	EPA 200.7
Copper	ND	0.01		mg/L	10/23/2009 1629 MS	EPA 200.8
Iron	ND	0.05		mg/L	10/23/2009 1531 MS	EPA 200.7
Lead	ND	0.02		mg/L	10/23/2009 1629 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/27/2009 944 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/23/2009 1629 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/23/2009 1531 MS	EPA 200.7
Selenium	ND	0.005		mg/L	10/23/2009 1629 MS	EPA 200.8
Uranium	0.006	0.001		mg/L	10/23/2009 1629 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/23/2009 1629 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/23/2009 1531 MS	EPA 200.7
Total Metals						
Iron	0.14	0.05		mg/L	10/29/2009 041 DG	EPA 200.7
Manganese	0.05	0.02		mg/L	10/29/2009 041 DG	EPA 200.7

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910347001

Work Order: S0910347
Project: Ross Project
Collection Date: 10/22/2009 11:00:00 AM
Lab ID: S0910347-001
Date Received: 10/22/2009 3:33:00 PM
Client Sample ID: TS RES 01
Sampler: RF
COC: 131109
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.87			s.u.	10/22/2009 1100	Field
Conductivity	272			µmhos/cm	10/22/2009 1100	Field
Dissolved Oxygen	6.78			mg/L	10/22/2009 1100	Field
Turbidity	63.0			NTU	10/22/2009 1100	Field
Temperature	5.5			℃	10/22/2009 1100	Field
General Parameters						
pH	8.6	0.1		s.u.	10/26/2009 1707 CK	SM 4500 H B
Electrical Conductivity	2000	5		µmhos/cm	10/26/2009 1707 CK	SM 2510B
Total Dissolved Solids (180)	1360	10		mg/L	10/26/2009 930 AMB	SM 2540
Solids, Total Dissolved (Calc)	1360	10		mg/L	10/30/2009 1143 KO	SM 1030E
Total Suspended Solids	62	5		mg/L	10/27/2009 040 SNS	SM 2540
Alkalinity, Total (As CaCO3)	1080	5		mg/L	10/26/2009 1707 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/30/2009 1221 SK	EPA 350.1
Oxygen, Dissolved	12	1	H	mg/L	10/23/2009 1100 KO	SM 4500-O G
Gross Alpha	23.0 ± 3.9	2		pCi/L	11/09/2009 000 SH	SM 7110B
Gross Beta	31.4 ± 4.3	4.12		pCi/L	11/09/2009 000 SH	SM 7110B
Radium 226	0.29 ± 0.09	0.2		pCi/L	11/09/2009 2030 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	11/10/2009 2145 SH	Ra-05
Turbidity	58.4	0.1		NTU	10/23/2009 1558 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	1190	5		mg/L	10/26/2009 1707 CK	SM 2320B
Alkalinity, Carbonate as CO3	66	5		mg/L	10/26/2009 1707 CK	SM 2320B
Chloride	10	1		mg/L	10/23/2009 1403 KO	EPA 300.0
Fluoride	0.3	0.1		mg/L	10/26/2009 1707 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/28/2009 1526 SK	EPA 353.2
Sulfate	136	1		mg/L	10/23/2009 1403 KO	EPA 300.0
Cations						
Calcium	41	1		mg/L	10/23/2009 1533 MS	EPA 200.7
Magnesium	60	1		mg/L	10/23/2009 1533 MS	EPA 200.7
Potassium	24	1		mg/L	10/23/2009 1533 MS	EPA 200.7
Sodium	440	1		mg/L	10/23/2009 1533 MS	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910347001

Project: Ross Project
Lab ID: S0910347-001
Client Sample ID: TS RES 01
COC: 131109

Work Order: S0910347
Collection Date: 10/22/2009 11:00:00 AM
Date Received: 10/22/2009 3:33:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	19.44	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Carbonate as CO3	2.19	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Chloride	0.27	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Sulfate	2.83	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Calcium	2.06	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Magnesium	4.89	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Potassium	0.60	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Sodium	19.13	0.01		meq/L	10/30/2009 1143 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	26.69	0		meq/L	10/30/2009 1143 KO	SM 1030E
Anion Sum	24.76	0		meq/L	10/30/2009 1143 KO	SM 1030E
Cation-Anion Balance	3.74	0		%	10/30/2009 1143 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/23/2009 1533 MS	EPA 200.7
Arsenic	0.005	0.005		mg/L	10/23/2009 1640 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/23/2009 1640 MS	EPA 200.8
Boron	0.3	0.1		mg/L	10/23/2009 1533 MS	EPA 200.7
Cadmium	ND	0.002		mg/L	10/23/2009 1640 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/23/2009 1533 MS	EPA 200.7
Copper	ND	0.01		mg/L	10/23/2009 1640 MS	EPA 200.8
Iron	0.07	0.05		mg/L	10/23/2009 1533 MS	EPA 200.7
Lead	ND	0.02		mg/L	10/23/2009 1640 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/27/2009 946 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/23/2009 1640 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/23/2009 1533 MS	EPA 200.7
Selenium	0.005	0.005		mg/L	10/23/2009 1640 MS	EPA 200.8
Uranium	0.028	0.001		mg/L	10/23/2009 1640 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/23/2009 1640 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/23/2009 1533 MS	EPA 200.7
Total Metals						
Iron	1.95	0.05		mg/L	10/29/2009 043 DG	EPA 200.7
Manganese	0.25	0.02		mg/L	10/29/2009 043 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910346001

Project: Ross Project
Lab ID: S0910346-001
Client Sample ID: TW RES 01
COC: 131108

Work Order: S0910346
Collection Date: 10/22/2009 12:00:00 PM
Date Received: 10/22/2009 3:33:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.99			s.u.	10/22/2009 1200	Field
Conductivity	218			µmhos/cm	10/22/2009 1200	Field
Dissolved Oxygen	7.21			mg/L	10/22/2009 1200	Field
Turbidity	62.4			NTU	10/22/2009 1200	Field
Temperature	9.2			℃	10/22/2009 1200	Field
General Parameters						
pH	8.0	0.1		s.u.	10/26/2009 1644 CK	SM 4500 H B
Electrical Conductivity	213	5		µmhos/cm	10/26/2009 1644 CK	SM 2510B
Total Dissolved Solids (180)	120	10		mg/L	10/26/2009 920 AMB	SM 2540
Solids, Total Dissolved (Calc)	120	10		mg/L	10/30/2009 851 KO	SM 1030E
Total Suspended Solids	74	5		mg/L	10/27/2009 030 SNS	SM 2540
Alkalinity, Total (As CaCO3)	95	5		mg/L	10/26/2009 1644 CK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/30/2009 1219 SK	EPA 350.1
Oxygen, Dissolved	13	1	H	mg/L	10/23/2009 1100 KO	SM 4500-O G
Gross Alpha	2.25 ± 0.91	2		pCi/L	11/09/2009 000 SH	SM 7110B
Gross Beta	13.1 ± 1.6	3		pCi/L	11/09/2009 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	11/09/2009 2030 SH	SM 7500-Ra B
Total Radium 228	1.34 ± 0.72	1		pCi/L	11/10/2009 2145 SH	Ra-05
Turbidity	56.8	0.1		NTU	10/23/2009 1552 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	116	5		mg/L	10/26/2009 1644 CK	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	10/26/2009 1644 CK	SM 2320B
Chloride	4	1		mg/L	10/23/2009 1300 KO	EPA 300.0
Fluoride	0.1	0.1		mg/L	10/26/2009 1644 CK	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/28/2009 1524 SK	EPA 353.2
Sulfate	8	1		mg/L	10/23/2009 1300 KO	EPA 300.0
Cations						
Calcium	19	1		mg/L	10/23/2009 1521 MS	EPA 200.7
Magnesium	5	1		mg/L	10/23/2009 1521 MS	EPA 200.7
Potassium	12	1		mg/L	10/23/2009 1521 MS	EPA 200.7
Sodium	9	1		mg/L	10/23/2009 1521 MS	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 11/12/2009
Report ID: S0910346001

Project: Ross Project
Lab ID: S0910346-001
Client Sample ID: TW RES 01
COC: 131108

Work Order: S0910346
Collection Date: 10/22/2009 12:00:00 PM
Date Received: 10/22/2009 3:33:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	1.90	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Chloride	0.10	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Fluoride	ND	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Sulfate	0.16	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Calcium	0.96	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Magnesium	0.41	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Potassium	0.31	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Sodium	0.40	0.01		meq/L	10/30/2009 851 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	2.09	0		meq/L	10/30/2009 851 KO	SM 1030E
Anion Sum	2.17	0		meq/L	10/30/2009 851 KO	SM 1030E
Cation-Anion Difference	0.08	0		meq/L	10/30/2009 851 KO	SM 1030E
Dissolved Metals						
Aluminum	0.2	0.1		mg/L	10/23/2009 1521 MS	EPA 200.7
Arsenic	ND	0.005		mg/L	10/23/2009 1619 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/23/2009 1619 MS	EPA 200.8
Boron	ND	0.1		mg/L	10/23/2009 1521 MS	EPA 200.7
Cadmium	ND	0.002		mg/L	10/23/2009 1619 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/23/2009 1521 MS	EPA 200.7
Copper	ND	0.01		mg/L	10/23/2009 1619 MS	EPA 200.8
Iron	0.18	0.05		mg/L	10/23/2009 1521 MS	EPA 200.7
Lead	ND	0.02		mg/L	10/23/2009 1619 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/27/2009 942 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/23/2009 1619 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/23/2009 1521 MS	EPA 200.7
Selenium	ND	0.005		mg/L	10/23/2009 1619 MS	EPA 200.8
Uranium	ND	0.001		mg/L	10/23/2009 1619 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/23/2009 1619 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/23/2009 1521 MS	EPA 200.7
Total Metals						
Iron	2.62	0.05		mg/L	10/29/2009 038 DG	EPA 200.7
Manganese	0.12	0.02		mg/L	10/29/2009 038 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie J Mattson
Connie Mattson, Project Manager

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: BEN SCHEFFER **Date:** 1/9/10 **Time:** ~~PM~~ 15:20

Landowner
Name: BOEGER
Address CARTER CR RD
Phone#

Legal Location
Qtr/Qtr
SEC 18
TWN 53
RNG 67

Picture #(s) 3

Stock

Domestic

SEO Permitted Facility Name: OSHOTO RESERVOIR HBRES04 **Permit No.**

Location (Decimal Degrees)
Lat 44.58218°
Long -104.95387°
Elev. —

Water Quality
pH 8.10
Cond. 1,265 µS
Temp. ° C 1.7°C
Turbidity (ntu) 5.13
D.O. (mg/L) N/A

Water Level (ft): N/A **% Combustible Gas:** N/A

Casing Height (ft): N/A **Ambient Air Temp:** 20°F

Comments: SAMPLED AT WATER HOLE USED FOR OBTAINING DRILLING WATER

@ SAMPLED @ 15:20

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: DLMR (SW-1) **Date:** 3-9-10 **Time:** 1330
Downstream Little Missouri River

Landowner
Name:
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) 5, 6

Stock
Domestic

SEO Permitted Facility Name:
Permit No.

Location (Decimal Degrees)
Lat 44.58801
Long 104.93767
Elev. 4134

Water Quality
pH 8.06
Cond. 933
Temp. °C 1.8
Turbidity (ntu) 14.14
D.O. (mg/L) 6.92 mg/l 49.9 %

Water Level (ft):
% Combustible Gas: —

Casing Height (ft):
Ambient Air Temp: 30°C Wind 5-10 MPH

Comments: Estimated flow = 2-3 CFS. Water slightly rusty colored. Took samples on D.S. side of culvert on New Haven Road by field office.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: ULMB (SW-2) **Date:** 3-9-10 **Time:** 1110
upstream Little Missouri River

Landowner
Name:
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) 1, 2

Stock
Domestic

SEO Permitted Facility Name:
Permit No.

Location (Decimal Degrees) etrex
Lat 44.36989
Long 104.96164
Elev. 4167

Water Quality
pH 7.62
Cond. 422 µS
Temp. ° C 3.2
Turbidity (ntu) 11.68
D.O. (mg/L) 10.46 mg/l 81.0 %

Water Level (ft):
% Combustible Gas: —
Casing Height (ft):
Ambient Air Temp: 35°F Wind 10mph

Comments: Surface water quality and quantity monitoring. Snow runoff. Water color is slightly rusty. * Estimated flow is = 2-3 CFS. Water flowing under and over ice.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: Deadman Creek (SW-3) **Date:** 3-9-10 **Time:** 1230

Landowner
Name: _____
Address _____
Phone# _____

Legal Location
Qtr/Qtr _____
SEC _____
TWN _____
RNG _____

Picture #(s) 3,4

Stock _____

Domestic _____

SEO Permitted Facility Name: _____

Permit No. _____

Location (Decimal Degrees)
Lat 44.57568
Long 104.96368
Elev. 4177

Water Quality
pH 8.50
Cond. 909 µS
Temp. ° C 2.4
Turbidity (ntu) 14.90
D.O. (mg/L) 7.89 mg/l 57.5 %

Water Level (ft): _____

% Combustible Gas: _____

Casing Height (ft): _____

Ambient Air Temp: 30°C - Wind 5-10 mpH.

Comments: Estimated flow = 1-2 CFS. Water color is slightly rusty. Took sample and flow from D.S. side of D-Road culvert.

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 2/4/2010
Report ID: S1001120001

Project: Ross ISR
Lab ID: S1001120-002
Client Sample ID: Oshoto Res (HBRES04)
COC: 107702

Work Order: S1001120
Collection Date: 1/9/2010 3:20:00 PM
Date Received: 1/11/2010 8:00:00 AM
Sampler: BS
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.10			s.u.	01/09/2010 1520	Field
Conductivity	1265			µmhos/cm	01/09/2010 1520	Field
Dissolved Oxygen	5.2			mg/L	01/09/2010 1520	Field
Turbidity	5.13			NTU	01/09/2010 1520	Field
Temperature	1.7			℃	01/09/2010 1520	Field
General Parameters						
pH	8.3	0.1		s.u.	01/13/2010 1424 KO	SM 4500 H B
Electrical Conductivity	969	5		µmhos/cm	01/13/2010 1424 KO	SM 2510B
Total Dissolved Solids (180)	680	10	H	mg/L	01/28/2010 1400 AMB	SM 2540
Solids, Total Dissolved (Calc)	610	10		mg/L	01/18/2010 1055 KO	SM 1030E
Total Suspended Solids	7	5		mg/L	01/12/2010 1500 AMB	SM 2540
Alkalinity, Total (As CaCO3)	444	5		mg/L	01/13/2010 1424 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.3	0.1		mg/L	01/13/2010 1052 KO	EPA 350.1
Oxygen, Dissolved	5	1	H	mg/L	01/11/2010 000 CJM	SM 4500-O G
Gross Alpha	5.5 ± 2.1	2		pCi/L	01/18/2010 1748 SH	SM 7110B
Gross Beta	12.7 ± 2.6	3		pCi/L	01/18/2010 1748 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	01/27/2010 1318 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	01/28/2010 2335 SH	Ra-05
Turbidity	3.7	0.1	H	NTU	01/12/2010 1433 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	539	5		mg/L	01/13/2010 1424 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	01/13/2010 1424 KO	SM 2320B
Chloride	9	1		mg/L	01/14/2010 1718 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	01/13/2010 1424 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	01/26/2010 1659 SK	EPA 353.2
Sulfate	95	1		mg/L	01/14/2010 1718 KO	EPA 300.0
Cations						
Calcium	29	1		mg/L	01/12/2010 1840 DG	EPA 200.7
Magnesium	25	1		mg/L	01/12/2010 1840 DG	EPA 200.7
Potassium	14	1		mg/L	01/12/2010 1840 DG	EPA 200.7
Sodium	171	1		mg/L	01/12/2010 1840 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL
- O Outside the Range of Dilutions

RL - Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- L Analyzed by a contract laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

Reviewed by: Connie Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 2/4/2010
Report ID: S1001120001

Project: Ross ISR
Lab ID: S1001120-002
Client Sample ID: Oshoto Res (HBRES04)
COC: 107702

Work Order: S1001120
Collection Date: 1/9/2010 3:20:00 PM
Date Received: 1/11/2010 8:00:00 AM
Sampler: BS
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	8.82	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Chloride	0.26	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Sulfate	1.98	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Calcium	1.43	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Magnesium	2.03	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Potassium	0.36	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Sodium	7.45	0.01		meq/L	01/18/2010 1055 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	11.29	0		meq/L	01/18/2010 1055 KO	SM 1030E
Anion Sum	11.12	0		meq/L	01/18/2010 1055 KO	SM 1030E
Cation-Anion Balance	0.76	0		%	01/18/2010 1055 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	01/12/2010 1840 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	01/13/2010 1235 MS	EPA 200.8
Barium	ND	0.5		mg/L	01/13/2010 1235 MS	EPA 200.8
Boron	ND	0.1		mg/L	01/12/2010 1840 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	01/13/2010 1235 MS	EPA 200.8
Chromium	ND	0.01		mg/L	01/12/2010 1840 DG	EPA 200.7
Copper	ND	0.01		mg/L	01/13/2010 1235 MS	EPA 200.8
Iron	0.06	0.05		mg/L	01/12/2010 1840 DG	EPA 200.7
Lead	ND	0.02		mg/L	01/13/2010 1235 MS	EPA 200.8
Mercury	ND	0.001		mg/L	01/13/2010 1422 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	01/13/2010 1235 MS	EPA 200.8
Nickel	ND	0.01		mg/L	01/12/2010 1840 DG	EPA 200.7
Selenium	ND	0.005		mg/L	01/13/2010 1235 MS	EPA 200.8
Uranium	0.007	0.001		mg/L	01/13/2010 1235 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	01/13/2010 1235 MS	EPA 200.8
Zinc	ND	0.01		mg/L	01/12/2010 1840 DG	EPA 200.7
Total Metals						
Iron	0.10	0.05		mg/L	01/13/2010 2214 DG	EPA 200.7
Manganese	0.16	0.02		mg/L	01/13/2010 2214 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Connie Mattson
Connie Mattson, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 3/24/2010
Report ID: S1003144001

Project: Ross ISR
Lab ID: S1003144-003
Client Sample ID: SW-1
COC: 127399

Work Order: S1003144
Collection Date: 3/9/2010 1:30:00 PM
Date Received: 3/10/2010 8:04:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.06			s.u.	03/09/2010 1330	Field
Conductivity	933			µmhos/cm	03/09/2010 1330	Field
Dissolved Oxygen	6.92			mg/L	03/09/2010 1330	Field
Dissolved Oxygen (pct)	49.9			%	03/09/2010 1330	Field
Turbidity	14.14			NTU	03/09/2010 1330	Field
Temperature	1.8			℃	03/09/2010 1330	Field
General Parameters						
pH	8.2	0.1		s.u.	03/10/2010 1723 KO	SM 4500 H B
Electrical Conductivity	795	5		µmhos/cm	03/10/2010 1723 KO	SM 2510B
Total Dissolved Solids (180)	580	10		mg/L	03/10/2010 1400 AMB	SM 2540
Solids, Total Dissolved (Calc)	500	10		mg/L	03/16/2010 641 KO	SM 1030E
Total Suspended Solids	ND	5		mg/L	03/11/2010 1320 AMB	SM 2540
Alkalinity, Total (As CaCO3)	331	5		mg/L	03/10/2010 1723 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	03/11/2010 1517 SK	EPA 350.1
Oxygen, Dissolved	8	1	H	mg/L	03/10/2010 1255 KO	SM 4500-O G
Gross Alpha	8.8 ± 1.7	2		pCi/L	03/21/2010 1101 SH	SM 7110B
Gross Beta	8.6 ± 1.9	3		pCi/L	03/21/2010 1101 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	03/19/2010 1345 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	03/23/2010 153 SH	Ra-05
Turbidity	12.7	0.1		NTU	03/10/2010 1608 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	404	5		mg/L	03/10/2010 1723 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	03/10/2010 1723 KO	SM 2320B
Chloride	7	1		mg/L	03/11/2010 054 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	03/10/2010 1723 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	03/10/2010 2030 SK	EPA 353.2
Sulfate	98	1		mg/L	03/11/2010 054 KO	EPA 300.0
Cations						
Calcium	17	1		mg/L	03/15/2010 2014 DG	EPA 200.7
Magnesium	12	1		mg/L	03/15/2010 2014 DG	EPA 200.7
Potassium	11	1		mg/L	03/15/2010 2014 DG	EPA 200.7
Sodium	154	1		mg/L	03/15/2010 2014 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 3/24/2010
Report ID: S1003144001

Project: Ross ISR
Lab ID: S1003144-003
Client Sample ID: SW-1
COC: 127399

Work Order: S1003144
Collection Date: 3/9/2010 1:30:00 PM
Date Received: 3/10/2010 8:04:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	6.61	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Chloride	0.19	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Fluoride	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Sulfate	2.03	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Calcium	0.82	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Magnesium	0.95	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Potassium	0.27	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Sodium	6.71	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	8.76	0		meq/L	03/16/2010 641 KO	SM 1030E
Anion Sum	8.85	0		meq/L	03/16/2010 641 KO	SM 1030E
Cation-Anion Balance	0.48	0		%	03/16/2010 641 KO	SM 1030E
Dissolved Metals						
Aluminum	0.2	0.1		mg/L	03/11/2010 1708 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	03/11/2010 1013 MS	EPA 200.8
Barium	ND	0.5		mg/L	03/11/2010 1013 MS	EPA 200.8
Boron	ND	0.1		mg/L	03/11/2010 1708 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	03/11/2010 1013 MS	EPA 200.8
Chromium	ND	0.01		mg/L	03/11/2010 1708 DG	EPA 200.7
Copper	ND	0.01		mg/L	03/11/2010 1013 MS	EPA 200.8
Iron	0.33	0.05		mg/L	03/11/2010 1708 DG	EPA 200.7
Lead	ND	0.02		mg/L	03/11/2010 1013 MS	EPA 200.8
Mercury	ND	0.001		mg/L	03/16/2010 852 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	03/11/2010 1013 MS	EPA 200.8
Nickel	ND	0.01		mg/L	03/11/2010 1708 DG	EPA 200.7
Selenium	ND	0.005		mg/L	03/11/2010 1013 MS	EPA 200.8
Uranium	0.008	0.001		mg/L	03/11/2010 1013 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	03/11/2010 1013 MS	EPA 200.8
Zinc	ND	0.01		mg/L	03/11/2010 1708 DG	EPA 200.7
Total Metals						
Iron	0.95	0.05		mg/L	03/11/2010 2111 DG	EPA 200.7
Manganese	0.17	0.02		mg/L	03/11/2010 2111 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 3/24/2010
Report ID: S1003144001

Project: Ross ISR
Lab ID: S1003144-001
Client Sample ID: SW-2
COC: 127399

Work Order: S1003144
Collection Date: 3/9/2010 11:10:00 AM
Date Received: 3/10/2010 8:04:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	7.62			s.u.	03/09/2010 1110	Field
Conductivity	422			µmhos/cm	03/09/2010 1110	Field
Dissolved Oxygen	10.46			mg/L	03/09/2010 1110	Field
Dissolved Oxygen (pct)	81.0			%	03/09/2010 1110	Field
Turbidity	11.68			NTU	03/09/2010 1110	Field
Temperature	3.2			°C	03/09/2010 1110	Field
General Parameters						
pH	8.1	0.1		s.u.	03/10/2010 1702 KO	SM 4500 H B
Electrical Conductivity	283	5		µmhos/cm	03/10/2010 1702 KO	SM 2510B
Total Dissolved Solids (180)	220	10		mg/L	03/10/2010 1350 AMB	SM 2540
Solids, Total Dissolved (Calc)	160	10		mg/L	03/16/2010 641 KO	SM 1030E
Total Suspended Solids	7	5		mg/L	03/11/2010 1310 AMB	SM 2540
Alkalinity, Total (As CaCO3)	118	5		mg/L	03/10/2010 1702 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	03/11/2010 1515 SK	EPA 350.1
Oxygen, Dissolved	10	1	H	mg/L	03/10/2010 1255 KO	SM 4500-O G
Gross Alpha	4.0 ± 1.2	2		pCi/L	03/20/2010 2108 SH	SM 7110B
Gross Beta	6.0 ± 1.4	3		pCi/L	03/20/2010 2108 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	03/19/2010 1110 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	03/23/2010 153 SH	Ra-05
Turbidity	8.9	0.1		NTU	03/10/2010 1604 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	144	5		mg/L	03/10/2010 1702 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	03/10/2010 1702 KO	SM 2320B
Chloride	3	1		mg/L	03/11/2010 021 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	03/10/2010 1702 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	03/10/2010 2027 SK	EPA 353.2
Sulfate	26	1		mg/L	03/11/2010 021 KO	EPA 300.0
Cations						
Calcium	14	1		mg/L	03/11/2010 1657 DG	EPA 200.7
Magnesium	6	1		mg/L	03/11/2010 1657 DG	EPA 200.7
Potassium	6	1		mg/L	03/11/2010 1657 DG	EPA 200.7
Sodium	37	1		mg/L	03/11/2010 1657 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 3/24/2010
Report ID: S1003144001

Project: Ross ISR
Lab ID: S1003144-001
Client Sample ID: SW-2
COC: 127399

Work Order: S1003144
Collection Date: 3/9/2010 11:10:00 AM
Date Received: 3/10/2010 8:04:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	2.36	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Chloride	0.07	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Fluoride	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Sulfate	0.54	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Calcium	0.71	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Magnesium	0.49	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Potassium	0.16	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Sodium	1.60	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	2.97	0		meq/L	03/16/2010 641 KO	SM 1030E
Anion Sum	2.97	0		meq/L	03/16/2010 641 KO	SM 1030E
Cation-Anion Balance	0.00	0		%	03/16/2010 641 KO	SM 1030E
Dissolved Metals						
Aluminum	0.2	0.1		mg/L	03/11/2010 1657 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	03/11/2010 952 MS	EPA 200.8
Barium	ND	0.5		mg/L	03/11/2010 952 MS	EPA 200.8
Boron	ND	0.1		mg/L	03/11/2010 1657 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	03/11/2010 952 MS	EPA 200.8
Chromium	ND	0.01		mg/L	03/11/2010 1657 DG	EPA 200.7
Copper	ND	0.01		mg/L	03/11/2010 952 MS	EPA 200.8
Iron	0.26	0.05		mg/L	03/11/2010 1657 DG	EPA 200.7
Lead	ND	0.02		mg/L	03/11/2010 952 MS	EPA 200.8
Mercury	ND	0.001		mg/L	03/16/2010 845 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	03/11/2010 952 MS	EPA 200.8
Nickel	ND	0.01		mg/L	03/11/2010 1657 DG	EPA 200.7
Selenium	ND	0.005		mg/L	03/11/2010 952 MS	EPA 200.8
Uranium	0.003	0.001		mg/L	03/11/2010 952 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	03/11/2010 952 MS	EPA 200.8
Zinc	ND	0.01		mg/L	03/11/2010 1657 DG	EPA 200.7
Total Metals						
Iron	0.64	0.05		mg/L	03/11/2010 2107 DG	EPA 200.7
Manganese	0.11	0.02		mg/L	03/11/2010 2107 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 3/24/2010
Report ID: S1003144001

Project: Ross ISR
Lab ID: S1003144-002
Client Sample ID: SW-3
COC: 127399

Work Order: S1003144
Collection Date: 3/9/2010 12:30:00 PM
Date Received: 3/10/2010 8:04:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.50			s.u.	03/09/2010 1230	Field
Conductivity	909			µmhos/cm	03/09/2010 1230	Field
Dissolved Oxygen	7.89			mg/L	03/09/2010 1230	Field
Dissolved Oxygen (pct)	57.5			%	03/09/2010 1230	Field
Turbidity	14.90			NTU	03/09/2010 1230	Field
Temperature	2.4			℃	03/09/2010 1230	Field
General Parameters						
pH	8.3	0.1		s.u.	03/10/2010 1713 KO	SM 4500 H B
Electrical Conductivity	794	5		µmhos/cm	03/10/2010 1713 KO	SM 2510B
Total Dissolved Solids (180)	580	10		mg/L	03/10/2010 1355 AMB	SM 2540
Solids, Total Dissolved (Calc)	500	10		mg/L	03/16/2010 641 KO	SM 1030E
Total Suspended Solids	14	5		mg/L	03/11/2010 1315 AMB	SM 2540
Alkalinity, Total (As CaCO3)	357	5		mg/L	03/10/2010 1713 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	03/11/2010 1516 SK	EPA 350.1
Oxygen, Dissolved	9	1	H	mg/L	03/10/2010 1255 KO	SM 4500-O G
Gross Alpha	7.3 ± 2.3	2		pCi/L	03/20/2010 2108 SH	SM 7110B
Gross Beta	11.2 ± 2.6	3		pCi/L	03/20/2010 2108 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	03/19/2010 1345 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	03/23/2010 153 SH	Ra-05
Turbidity	12.8	0.1		NTU	03/10/2010 1606 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	435	5		mg/L	03/10/2010 1713 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	03/10/2010 1713 KO	SM 2320B
Chloride	4	1		mg/L	03/11/2010 038 KO	EPA 300.0
Fluoride	0.1	0.1		mg/L	03/10/2010 1713 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	03/10/2010 2028 SK	EPA 353.2
Sulfate	92	1		mg/L	03/11/2010 038 KO	EPA 300.0
Cations						
Calcium	24	1		mg/L	03/15/2010 2012 DG	EPA 200.7
Magnesium	25	1		mg/L	03/15/2010 2012 DG	EPA 200.7
Potassium	10	1		mg/L	03/15/2010 2012 DG	EPA 200.7
Sodium	129	1		mg/L	03/15/2010 2012 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 3/24/2010
Report ID: S1003144001

Project: Ross ISR
Lab ID: S1003144-002
Client Sample ID: SW-3
COC: 127399

Work Order: S1003144
Collection Date: 3/9/2010 12:30:00 PM
Date Received: 3/10/2010 8:04:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	7.13	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Chloride	0.12	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Fluoride	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Sulfate	1.91	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Calcium	1.19	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Magnesium	2.09	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Potassium	0.24	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Sodium	5.62	0.01		meq/L	03/16/2010 641 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	9.16	0		meq/L	03/16/2010 641 KO	SM 1030E
Anion Sum	9.18	0		meq/L	03/16/2010 641 KO	SM 1030E
Cation-Anion Balance	0.11	0		%	03/16/2010 641 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	03/11/2010 1706 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	03/11/2010 1002 MS	EPA 200.8
Barium	ND	0.5		mg/L	03/11/2010 1002 MS	EPA 200.8
Boron	ND	0.1		mg/L	03/11/2010 1706 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	03/11/2010 1002 MS	EPA 200.8
Chromium	ND	0.01		mg/L	03/11/2010 1706 DG	EPA 200.7
Copper	ND	0.01		mg/L	03/11/2010 1002 MS	EPA 200.8
Iron	0.34	0.05		mg/L	03/11/2010 1706 DG	EPA 200.7
Lead	ND	0.02		mg/L	03/11/2010 1002 MS	EPA 200.8
Mercury	ND	0.001		mg/L	03/16/2010 846 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	03/11/2010 1002 MS	EPA 200.8
Nickel	ND	0.01		mg/L	03/11/2010 1706 DG	EPA 200.7
Selenium	ND	0.005		mg/L	03/11/2010 1002 MS	EPA 200.8
Uranium	0.009	0.001		mg/L	03/11/2010 1002 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	03/11/2010 1002 MS	EPA 200.8
Zinc	ND	0.01		mg/L	03/11/2010 1706 DG	EPA 200.7
Total Metals						
Iron	0.87	0.05		mg/L	03/11/2010 2109 DG	EPA 200.7
Manganese	0.17	0.02		mg/L	03/11/2010 2109 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 02 **Date:** 5-18-10 **Time:** 1245

Landowner
Name: Strong
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) —

Stock ✓

Domestic

SEO Permitted Facility Name: —

Permit No. —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 7.92
Cond. 266 uS
Temp. °C 18.3
Turbidity (ntu) 620
D.O. (mg/L) 3.87 mg/l 42.4%

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp: 65°F - Windy

Comments: Additional 4.14 Disc. & Sus. - Water turbid - noodor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 03 **Date:** 5-20-10 **Time:** 1230

Landowner
Name: Strong
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) —

Stock ✓

Domestic

SEO Permitted Facility Name: —

Permit No.

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.47
Cond. 467 µS
Temp. °C 16.7
Turbidity (ntu) 4.80
5.30 mg/l
D.O. (mg/L) 54.5%

Water Level (ft):

% Combustible Gas: —

Casing Height (ft):

Ambient Air Temp: 60F / Windy

Comments: Reservoir 1/4 full - water clear - no odor
Collected water for 4.14 Disa. & Sus.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: HBRES04 **Date:** 4-14-10 **Time:** 1000
Oshoto Reservoir

Landowner
Name: Harry Berger
Address
Phone#

Legal Location
Qtr/Qtr E = SWNE
SEC 16
TWN 53
RNG 67

Picture #(s)

Stock

Domestic

SEO Permitted Facility Name: Oshoto Reservoir Harry Berger **Permit No.** P6046R

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 8.85
Cond. 872 µS
Temp. ° C 9.0
Turbidity (ntu) 8.42
D.O. (mg/L) 9.42 mg/l 81.8%

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp: 50°F, 15-25 mph Wind

Comments: Water is slightly turbid - light brown in color - no odor. Reservoir is full - At spillway height. - Not flowing through spillway, but close

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: P155075 Swanda **Date:** 5/5/10 **Time:** 1500

Landowner
Name: Tony Swanda
Address
Phone#

Legal Location
Qtr/Qtr NWSE
SEC 13
TWN 53
RNG 68

Picture #(s) 21

Stock ✓

Domestic

SEO Permitted Facility Name: Deadman #1

Permit No. P155075

Location (Decimal Degrees)
Lat N 44.57617
Long W 104.97282
Elev. 4166

Water Quality
pH 9.20
Cond. 1413 µS
Temp. °C 10.7
Turbidity (ntu) 31.4
D.O. (mg/L) 11.32 / 105.6 %

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: sampled for 4.14 dissolved and suspended - Filtered 2 gal - used filters.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TWRES01 **Date:** 6-23-10 **Time:** 1000

Landowner
Name: T.J. Wesley
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name: —

Permit No.

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 10.64
Cond. 188.5 µS
Temp. °C 20.5
Turbidity (ntu) 10.85
D.O. (mg/L) 3.91 / 44.0

Water Level (ft): 1/2 full **% Combustible Gas:**

Casing Height (ft): — **Ambient Air Temp:**

Comments: Water slightly turbide (light brown) — no odor - heavy rainfall last night.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TW RES 02 **Date:** 5-21-10 **Time:** 1100

Landowner
Name: Wesley
Address
Phone#

Legal Location
Qtr/Qtr SESE
SEC 12
TWN 53
RNG 68

Picture #(s) 3, 4

Stock ✓

Domestic

SEO Permitted Facility Name: —

Permit No. —

Location (Decimal Degrees)
Lat 44.58871
Long 104.96687
Elev. 4267

Water Quality
pH 9.03
Cond. 414 µS
Temp. ° C 15.5
Turbidity (ntu) 11.91
D.O. (mg/L) 4.37 mg/l 44.7%

Water Level (ft): 1/4 full **% Combustible Gas:**

Casing Height (ft): — **Ambient Air Temp:** 60°F

Comments: Water slightly turbid - no odor — Reservoir dimensions - 150' X 75' X 3'

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: DLMR (SW-1) **Date:** 4-13-10 **Time:** 1230
Downstream Little Missouri River

Landowner
Name:
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) 2

Stock

Domestic

SEO Permitted Facility Name:

Permit No.

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 8.39
Cond. 1200 µS
Temp. ° C 9.8
Turbidity (ntu) 9.10
D.O. (mg/L) 7.28 mg/l 64.6 %

Water Level (ft): Flow = < 0.25 CFS **% Combustible Gas:** —

Casing Height (ft): **Ambient Air Temp:** 45 °F

Comments: Water slightly turbid - no odor - light brown in color. Estimated flow - not enough to measure. Sampled in same location as previous sample.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name ULMR (SW-2) **Date:** 4-13-10 **Time:** 0830
Upstream Little Missouri River

Landowner
Name:
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) 1

Stock

Domestic

SEO Permitted Facility Name:

Permit No.

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 8.35
Cond. 1348 µS
Temp. °C 7.8
Turbidity (ntu) 3.86
D.O. (mg/L) 63.4 % 7.59 mg/l

Water Level (ft): Flow = <0.25 CFS

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp: 40°F

Comments: Water - slightly turbid - light brown color. Flow was estimated - not enough to measure. Took sample from same location as previous sample

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: DMC (SW-3) **Date:** 4-13-10 **Time:** 1130
Deadman Creek

Landowner
Name:
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) 3

Stock

Domestic

SEO Permitted Facility Name:

Permit No.

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 8.86
Cond. 1209 µS
Temp. °C 10.0
Turbidity (ntu) 16.29
D.O. (mg/L) 8.77 mg/l 78.3 %

Water Level (ft): Flow = < 0.25 CFS **% Combustible Gas:** —

Casing Height (ft): **Ambient Air Temp:** 45°F

Comments: Water slightly turbid - no odor - light brown in color. - Flow was estimated - not enough to measure - Sample at same location as previous sample.

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 6/28/2010
Report ID: S1005250002
(Replaces S1005250001)
Work Order: S1005250

Project: Ross ISR
Lab ID: S1005250-003
Client Sample ID: CSRES02
COC: 131164

Collection Date: 5/18/2010 12:45:00 PM
Date Received: 5/19/2010 10:07:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	7.92		s.u.		05/18/2010 1245	Field
Conductivity	266		µm	hos/cm	05/18/2010 1245	Field
Dissolved Oxygen	3.87		mg	/L	05/18/2010 1245	Field
Dissolved Oxygen (pct)	42.4			%	05/18/2010 1245	Field
Turbidity	620		NT	U	05/18/2010 1245	Field
Temperature	18.3		°C		05/18/2010 1245	Field
General Parameters						
pH	8.1	0.1		s.u.	05/19/2010 2145 KO	SM 4500 H B
Electrical Conductivity	240	5		µmhos/cm	05/26/2010 1320 KO	SM 2510B
Total Dissolved Solids (180)	220	10		mg/L	05/20/2010 1031 MJH	SM 2540
Solids, Total Dissolved (Calc)	130	10		mg/L	06/02/2010 846 KO	SM 1030E
Total Suspended Solids	210	5		mg/L	05/19/2010 1703 MJH	SM 2540
Alkalinity, Total (As CaCO3)	113	5		mg/L	05/19/2010 2145 KO	SM 2320B
Nitrogen, Ammonia (As N)	5.6	0.1		mg/L	06/02/2010 1453 AS	EPA 350.1
Gross Alpha	3.85 ± 0.97	2		pCi/L	06/21/2010 910 SH	SM 7110B
Gross Beta	20.3 ± 1.3	3		pCi/L	06/21/2010 910 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	06/13/2010 1533 SH	SM 7500-Ra B
Radium 226 (Suspended)	1.12 ± 0.16	0.2		pCi/L	06/14/2010 1845 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	06/14/2010 304 SH	Ra-05
Lead 210	ND	1		pCi/L	06/10/2010 1437 SH	OTW01
Lead 210 Suspended	3.26 ± 0.56	1		pCi/L	06/10/2010 1901 SH	OTW01
Polonium 210	ND	1		pCi/L	06/08/2010 2013 SH	OTW01
Polonium 210 Suspended	ND	1		pCi/L	06/09/2010 1821 SH	OTW01
Thorium 230	ND	0.2	L	pCi/L	06/19/2010 000 WN	ACW10
Thorium 230 Suspended	0.28±0.11	0.2	L	pCi/L	06/19/2010 000 WN	ACW10
Uranium Suspended	0.353	0.001		mg/L	05/25/2010 1340 MS	EPA 200.8
Turbidity	490	0.1		NTU	05/19/2010 1454 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	138	5		mg/L	05/19/2010 2145 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	05/19/2010 2145 KO	SM 2320B
Chloride	6	1		mg/L	05/25/2010 000 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	05/19/2010 2145 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	05/28/2010 1644 AS	EPA 353.2
Sulfate	3	1		mg/L	05/25/2010 000 KO	EPA 300.0

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 6/28/2010
Report ID: S1005250002
(Replaces S1005250001)
Work Order: S1005250
Collection Date: 5/18/2010 12:45:00 PM
Date Received: 5/19/2010 10:07:00 AM
Sampler: RF
Matrix: Water

Project: Ross ISR
Lab ID: S1005250-003
Client Sample ID: CSRES02
COC: 131164

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cations						
Calcium	30	1		mg/L	06/01/2010 1203 RS	EPA 200.7
Magnesium	5	1		mg/L	05/20/2010 1357 RS	EPA 200.7
Potassium	17	1		mg/L	05/20/2010 1357 RS	EPA 200.7
Sodium	5	1		mg/L	06/01/2010 1203 RS	EPA 200.7
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	2.26	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Chloride	0.17	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Fluoride	ND	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Sulfate	0.05	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Calcium	1.47	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Magnesium	0.37	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Potassium	0.42	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Sodium	0.23	0.01		meq/L	06/02/2010 846 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	2.50	0		meq/L	06/02/2010 846 KO	SM 1030E
Anion Sum	2.49	0		meq/L	06/02/2010 846 KO	SM 1030E
Cation-Anion Balance	0.16	0		%	06/02/2010 846 KO	SM 1030E

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 6/28/2010
Report ID: S1005250002
(Replaces S1005250001)
Work Order: S1005250
Collection Date: 5/18/2010 12:45:00 PM
Date Received: 5/19/2010 10:07:00 AM
Sampler: RF
Matrix: Water

Project: Ross ISR
Lab ID: S1005250-003
Client Sample ID: CSRES02
COC: 131164

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	1.4	0.1		mg/L	05/20/2010 1357 RS	EPA 200.7
Arsenic	0.005	0.005		mg/L	05/19/2010 1810 MS	EPA 200.8
Barium	ND	0.5		mg/L	05/19/2010 1810 MS	EPA 200.8
Boron	ND	0.1		mg/L	05/20/2010 1357 RS	EPA 200.7
Cadmium	ND	0.002		mg/L	05/19/2010 1810 MS	EPA 200.8
Chromium	ND	0.01		mg/L	05/20/2010 1357 RS	EPA 200.7
Copper	ND	0.01		mg/L	05/19/2010 1810 MS	EPA 200.8
Iron	0.92	0.05		mg/L	05/20/2010 1357 RS	EPA 200.7
Lead	ND	0.02		mg/L	05/19/2010 1810 MS	EPA 200.8
Mercury	ND	0.001		mg/L	05/21/2010 1215 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	05/19/2010 1810 MS	EPA 200.8
Nickel	ND	0.01		mg/L	05/20/2010 1357 RS	EPA 200.7
Selenium	0.006	0.005		mg/L	05/19/2010 1810 MS	EPA 200.8
Uranium	ND	0.001		mg/L	05/19/2010 1810 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	05/19/2010 1810 MS	EPA 200.8
Zinc	ND	0.01		mg/L	05/20/2010 1357 RS	EPA 200.7
Total Metals						
Iron	19.7	0.05		mg/L	05/20/2010 1810 RS	EPA 200.7
Manganese	0.94	0.02		mg/L	05/20/2010 1810 RS	EPA 200.7

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 6/30/2010
Report ID: S1005311001

Work Order: S1005311
Project: ROSS ISR
Collection Date: 5/20/2010 12:30:00 PM
Lab ID: S1005311-001
Date Received: 5/21/2010 3:44:00 PM
Client Sample ID: CSRES03
Sampler: RF
COC: 131149
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.47		s.u.		05/20/2010 1230	Field
Conductivity	467		µm	hos/cm	05/20/2010 1230	Field
Dissolved Oxygen	5.30		mg	/L	05/20/2010 1230	Field
Dissolved Oxygen (pct)	54.5			%	05/20/2010 1230	Field
Turbidity	4.80		NT	U	05/20/2010 1230	Field
Temperature	16.7		°C		05/20/2010 1230	Field
General Parameters						
pH	8.7	0.1		s.u.	05/25/2010 1502 KO	SM 4500 H B
Electrical Conductivity	444	5		µmhos/cm	06/03/2010 1353 KO	SM 2510B
Total Dissolved Solids (180)	270	10		mg/L	05/24/2010 1655 MJH	SM 2540
Solids, Total Dissolved (Calc)	260	10		mg/L	06/04/2010 758 KO	SM 1030E
Total Suspended Solids	40	5		mg/L	05/25/2010 1050 MJH	SM 2540
Alkalinity, Total (As CaCO3)	136	5		mg/L	06/03/2010 1353 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	06/08/2010 1500 AS	EPA 350.1
Gross Alpha	3.4 ± 1.5	2		pCi/L	06/30/2010 125 SH	SM 7110B
Gross Beta	8.6 ± 2.6	3		pCi/L	06/30/2010 125 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	06/14/2010 1502 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	06/15/2010 1640 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	06/19/2010 029 SH	Ra-05
Lead 210	ND	1		pCi/L	06/19/2010 1803 SH	OTW01
Lead 210 Suspended	ND	1		pCi/L	06/19/2010 2226 SH	OTW01
Polonium 210	ND	1		pCi/L	06/24/2010 2111 SH	OTW01
Polonium 210 Suspended	ND	1		pCi/L	06/25/2010 1822 SH	OTW01
Thorium 230	ND	0.2	L	pCi/L	06/18/2010 000 WN	ACW10
Thorium 230 Suspended	ND	0.2	L	pCi/L	06/18/2010 000 WN	ACW10
Uranium Suspended	0.017	0.001		mg/L	05/26/2010 1001 MS	EPA 200.8
Turbidity	9.2	0.1		NTU	05/21/2010 1626 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	149	5		mg/L	06/03/2010 1353 KO	SM 2320B
Alkalinity, Carbonate as CO3	9	5		mg/L	06/03/2010 1353 KO	SM 2320B
Chloride	3	1		mg/L	05/24/2010 2045 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	05/25/2010 1502 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	06/04/2010 1535 AS	EPA 353.2
Sulfate	81	1		mg/L	05/24/2010 2045 KO	EPA 300.0

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 6/30/2010
Report ID: S1005311001

Work Order: S1005311
Project: ROSS ISR
Collection Date: 5/20/2010 12:30:00 PM
Lab ID: S1005311-001
Date Received: 5/21/2010 3:44:00 PM
Client Sample ID: CSRES03
Sampler: RF
COC: 131149
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cations						
Calcium	35	1		mg/L	05/24/2010 1554 RS	EPA 200.7
Magnesium	13	1		mg/L	06/01/2010 1212 RS	EPA 200.7
Potassium	8	1		mg/L	06/01/2010 1212 RS	EPA 200.7
Sodium	38	1		mg/L	06/01/2010 1212 RS	EPA 200.7
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	2.43	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Carbonate as CO3	0.29	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Chloride	0.07	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Sulfate	1.68	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Calcium	1.74	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Magnesium	1.08	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Potassium	0.20	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Sodium	1.65	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	4.67	0		meq/L	06/04/2010 758 KO	SM 1030E
Anion Sum	4.50	0		meq/L	06/04/2010 758 KO	SM 1030E
Cation-Anion Balance	1.92	0		%	06/04/2010 758 KO	SM 1030E

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 6/30/2010
Report ID: S1005311001

Project: ROSS ISR
Lab ID: S1005311-001
Client Sample ID: CSRES03
COC: 131149

Work Order: S1005311
Collection Date: 5/20/2010 12:30:00 PM
Date Received: 5/21/2010 3:44:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	05/24/2010 1554 RS	EPA 200.7
Arsenic	ND	0.005		mg/L	05/24/2010 1223 MS	EPA 200.8
Barium	ND	0.5		mg/L	05/24/2010 1223 MS	EPA 200.8
Boron	ND	0.1		mg/L	05/24/2010 1554 RS	EPA 200.7
Cadmium	ND	0.002		mg/L	05/24/2010 1223 MS	EPA 200.8
Chromium	ND	0.01		mg/L	05/24/2010 1554 RS	EPA 200.7
Copper	ND	0.01		mg/L	05/24/2010 1223 MS	EPA 200.8
Iron	ND	0.05		mg/L	05/24/2010 1554 RS	EPA 200.7
Lead	ND	0.02		mg/L	05/24/2010 1223 MS	EPA 200.8
Mercury	ND	0.001		mg/L	05/25/2010 1309 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	05/24/2010 1223 MS	EPA 200.8
Nickel	ND	0.01		mg/L	05/24/2010 1554 RS	EPA 200.7
Selenium	ND	0.005		mg/L	05/24/2010 1223 MS	EPA 200.8
Uranium	0.002	0.001		mg/L	05/24/2010 1223 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	05/24/2010 1223 MS	EPA 200.8
Zinc	ND	0.01		mg/L	05/24/2010 1554 RS	EPA 200.7
Total Metals						
Iron	0.42	0.05		mg/L	05/24/2010 1754 RS	EPA 200.7
Manganese	0.03	0.02		mg/L	05/24/2010 1754 RS	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004178001

Project: ROSS ISR
Lab ID: S1004178-002
Client Sample ID: HB RES 04
COC: 128478

Work Order: S1004178
Collection Date: 4/14/2010 10:00:00 AM
Date Received: 4/14/2010 3:34:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.85	s.u.			04/14/2010 1000	Field
Conductivity	872	µm		hos/cm	04/14/2010 1000	Field
Dissolved Oxygen	9.42	mg		/L	04/14/2010 1000	Field
Dissolved Oxygen (pct)	81.8			%	04/14/2010 1000	Field
Turbidity	8.42	NT		U	04/14/2010 1000	Field
Temperature	9.0	°C			04/14/2010 1000	Field
General Parameters						
pH	8.7	0.1		s.u.	04/17/2010 128 KO	SM 4500 H B
Electrical Conductivity	827	5		µmhos/cm	04/17/2010 128 KO	SM 2510B
Total Dissolved Solids (180)	560	10		mg/L	04/16/2010 1310 AMB	SM 2540
Solids, Total Dissolved (Calc)	520	10		mg/L	04/21/2010 1424 KO	SM 1030E
Total Suspended Solids	6	5		mg/L	04/15/2010 1430 AMB	SM 540
Alkalinity, Total (As CaCO3)	390	5		mg/L	04/17/2010 128 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	04/22/2010 926 SK	EPA 350.1
Gross Alpha	3.1 ± 1.7	2.00		pCi/L	04/27/2010 000 SH	SM 7110B
Gross Beta	11.3 ± 2.6	3.00		pCi/L	04/27/2010 000 SH	SM 7110B
Radium 226	0.20 ± 0.09	0.200		pCi/L	04/28/2010 1500 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	04/29/2010 129 SH	Ra-05
Turbidity	6.6	0.1		NTU	04/15/2010 820 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	429	5		mg/L	04/17/2010 128 KO	SM 2320B
Alkalinity, Carbonate as CO3	23	5		mg/L	04/17/2010 128 KO	SM 2320B
Chloride	8	1		mg/L	04/15/2010 2231 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	04/17/2010 128 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	04/20/2010 1446 SK	EPA 353.2
Sulfate	79	1		mg/L	04/15/2010 2231 KO	EPA 300.0
Cations						
Calcium	24	1		mg/L	04/16/2010 144 DG	EPA 200.7
Magnesium	20	1		mg/L	04/16/2010 144 DG	EPA 200.7
Potassium	11	1		mg/L	04/16/2010 144 DG	EPA 200.7
Sodium	148	1		mg/L	04/16/2010 144 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004178001

Work Order: S1004178
Project: ROSS ISR
Collection Date: 4/14/2010 10:00:00 AM
Lab ID: S1004178-002
Date Received: 4/14/2010 3:34:00 PM
Client Sample ID: HB RES 04
Sampler: RF
COC: 128478
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	7.03	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Carbonate as CO3	0.75	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Chloride	0.21	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Fluoride	ND	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Sulfate	1.63	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Calcium	1.20	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Magnesium	1.61	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Potassium	0.27	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Sodium	6.42	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	9.51	0		meq/L	04/21/2010 1424 KO	SM 1030E
Anion Sum	9.65	0		meq/L	04/21/2010 1424 KO	SM 1030E
Cation-Anion Balance	0.72	0		%	04/21/2010 1424 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	04/16/2010 144 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	04/15/2010 1006 MS	EPA 200.8
Barium	ND	0.5		mg/L	04/15/2010 1006 MS	EPA 200.8
Boron	ND	0.1		mg/L	04/16/2010 144 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	04/15/2010 1006 MS	EPA 200.8
Chromium	ND	0.01		mg/L	04/16/2010 144 DG	EPA 200.7
Copper	ND	0.01		mg/L	04/15/2010 1006 MS	EPA 200.8
Iron	ND	0.05		mg/L	04/16/2010 144 DG	EPA 200.7
Lead	ND	0.02		mg/L	04/15/2010 1006 MS	EPA 200.8
Mercury	ND	0.001		mg/L	04/16/2010 927 BK	EPA 245.2
Molybdenum	ND	0.02		mg/L	04/15/2010 1006 MS	EPA 200.8
Nickel	ND	0.01		mg/L	04/16/2010 144 DG	EPA 200.7
Selenium	ND	0.005		mg/L	04/15/2010 1006 MS	EPA 200.8
Uranium	0.007	0.001		mg/L	04/15/2010 1006 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	04/15/2010 1006 MS	EPA 200.8
Zinc	ND	0.01		mg/L	04/16/2010 144 DG	EPA 200.7
Total Metals						
Iron	0.25	0.05		mg/L	04/16/2010 1357 DG	EPA 200.7
Manganese	0.04	0.02		mg/L	04/16/2010 1357 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 7/8/2010
Report ID: S1005071002
(Replaces S1005071001)
Work Order: S1005071
Collection Date: 5/5/2010 3:00:00 PM
Date Received: 5/6/2010 9:06:00 AM
Sampler: RF
Matrix: Water

Project: ROSS ISR
Lab ID: S1005071-001
Client Sample ID: P15507S
COC: 131142

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.20		s.u.		05/05/2010 1500	Field
Conductivity	1413		µm	hos/cm	05/05/2010 1500	Field
Dissolved Oxygen	11.32		mg	/L	05/05/2010 1500	Field
Turbidity	31.4		NT	U	05/05/2010 1500	Field
Temperature	10.7		°C		05/05/2010 1500	Field
General Parameters						
pH	8.9	0.1		s.u.	05/10/2010 1813 KO	SM 4500 H B
Electrical Conductivity	1220	5		µmhos/cm	05/10/2010 1813 KO	SM 2510B
Total Dissolved Solids (180)	970	10		mg/L	05/07/2010 852 MJH	SM 2540
Solids, Total Dissolved (Calc)	870	10		mg/L	05/12/2010 1107 KO	SM 1030E
Total Suspended Solids	37	5		mg/L	05/06/2010 1725 LJK	SM 2540
Alkalinity, Total (As CaCO3)	639	5		mg/L	05/10/2010 1813 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.2	0.1		mg/L	05/27/2010 1417 AS	EPA 350.1
Gross Alpha	13.6 ± 2.4	2		pCi/L	05/20/2010 1045 SH	SM 7110B
Gross Beta	12.9 ± 2.1	3		pCi/L	05/20/2010 1045 SH	SM 7110B
Radium 226 (Dissolved)	.31 ± 0.08	0.2		pCi/L	05/26/2010 1115 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	05/26/2010 1745 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	05/23/2010 2210 SH	Ra-05
Lead 210	1.46 ± 0.80	1		pCi/L	05/27/2010 854 LJK	OTW01
Lead 210 Suspended	1.55 ± 0.99	1		pCi/L	05/27/2010 000 LJK	OTW01
Polonium 210	ND	1		pCi/L	05/22/2010 1740 SH	OTW01
Polonium 210 Suspended	ND	1		pCi/L	05/25/2010 1539 SH	OTW01
Thorium 230	ND	0.2		pCi/L	06/03/2010 000 WN	ACW10
Thorium 230 Suspended	0.28±0.14	0.2		pCi/L	06/03/2010 000 WN	ACW10
Uranium Suspended	ND	0.001		mg/L	05/12/2010 1457 MS	EPA 200.8
Turbidity	27.3	0.1		NTU	05/06/2010 1511 ML	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	635	5		mg/L	05/10/2010 1813 KO	SM 2320B
Alkalinity, Carbonate as CO3	71	5		mg/L	05/10/2010 1813 KO	SM 2320B
Chloride	7	1		mg/L	05/06/2010 2132 KO	EPA 300.0
Fluoride	0.3	0.1		mg/L	05/10/2010 1813 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	05/07/2010 1503 SK	EPA 353.2
Sulfate	163	1		mg/L	05/06/2010 2132 KO	EPA 300.0

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 7/8/2010
Report ID: S1005071002
(Replaces S1005071001)
Work Order: S1005071
Collection Date: 5/5/2010 3:00:00 PM
Date Received: 5/6/2010 9:06:00 AM
Sampler: RF
Matrix: Water

Project: ROSS ISR
Lab ID: S1005071-001
Client Sample ID: P15507S
COC: 131142

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cations						
Calcium	43	1		mg/L	05/06/2010 1929 DG	EPA 200.7
Magnesium	46	1		mg/L	05/06/2010 1929 DG	EPA 200.7
Potassium	11	1		mg/L	05/06/2010 1929 DG	EPA 200.7
Sodium	212	1		mg/L	05/06/2010 1929 DG	EPA 200.7
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	10.41	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Carbonate as CO3	2.35	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Chloride	0.20	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Sulfate	3.39	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Calcium	2.14	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Magnesium	3.80	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Potassium	0.29	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Sodium	9.24	0.01		meq/L	05/12/2010 1107 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	15.48	0		meq/L	05/12/2010 1107 KO	SM 1030E
Anion Sum	16.38	0		meq/L	05/12/2010 1107 KO	SM 1030E
Cation-Anion Balance	2.83	0		%	05/12/2010 1107 KO	SM 1030E

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 7/8/2010
Report ID: S1005071002
(Replaces S1005071001)
Work Order: S1005071
Collection Date: 5/5/2010 3:00:00 PM
Date Received: 5/6/2010 9:06:00 AM
Sampler: RF
Matrix: Water

Project: ROSS ISR
Lab ID: S1005071-001
Client Sample ID: P15507S
COC: 131142

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	05/06/2010 1929 DG	EPA 200.7
Arsenic	0.006	0.005		mg/L	05/06/2010 1517 MS	EPA 200.8
Barium	ND	0.5		mg/L	05/06/2010 1517 MS	EPA 200.8
Boron	0.1	0.1		mg/L	05/06/2010 1929 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	05/06/2010 1517 MS	EPA 200.8
Chromium	ND	0.01		mg/L	05/06/2010 1929 DG	EPA 200.7
Copper	ND	0.01		mg/L	05/06/2010 1517 MS	EPA 200.8
Iron	0.08	0.05		mg/L	05/06/2010 1929 DG	EPA 200.7
Lead	ND	0.02		mg/L	05/06/2010 1517 MS	EPA 200.8
Mercury	ND	0.001		mg/L	05/11/2010 1000 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	05/06/2010 1517 MS	EPA 200.8
Nickel	ND	0.01		mg/L	05/06/2010 1929 DG	EPA 200.7
Selenium	ND	0.005		mg/L	05/06/2010 1517 MS	EPA 200.8
Uranium	0.019	0.001		mg/L	05/06/2010 1517 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	05/06/2010 1517 MS	EPA 200.8
Zinc	ND	0.01		mg/L	05/06/2010 1929 DG	EPA 200.7
Total Metals						
Iron	1.14	0.05		mg/L	05/07/2010 1530 DG	EPA 200.7
Manganese	0.11	0.02		mg/L	05/07/2010 1530 DG	EPA 200.7

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	L	Analyzed by a contract laboratory
M	Value exceeds Monthly Ave or MCL	ND	Not Detected at the Reporting Limit
O	Outside the Range of Dilutions	S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/5/2010
Report ID: S1006462001

Project: ROSS ISR
Lab ID: S1006462-001
Client Sample ID: TW RES01
COC: 135254

Work Order: S1006462
Collection Date: 6/23/2010 10:00:00 AM
Date Received: 6/24/2010 8:06:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	10.64			s.u.	06/23/2010 1000	Field
Conductivity	188.5			µmhos/cm	06/23/2010 1000	Field
Dissolved Oxygen	3.91			mg/L	06/23/2010 1000	Field
Dissolved Oxygen (pct)	44.0			%	06/23/2010 1000	Field
Turbidity	10.85			NTU	06/23/2010 1000	Field
Temperature	20.5			°C	06/23/2010 1000	Field
General Parameters						
pH	9.2	0.1		s.u.	06/25/2010 1941 KO	SM 4500 H B
Electrical Conductivity	129	5		µmhos/cm	06/25/2010 1941 KO	SM 2510B
Total Dissolved Solids (180)	100	10		mg/L	07/01/2010 845 MJH	SM 2540
Solids, Total Dissolved (Calc)	70	10		mg/L	07/06/2010 910 KO	SM 1030E
Total Suspended Solids	14	5		mg/L	06/28/2010 1155 MJH	SM 2540
Alkalinity, Total (As CaCO3)	55	5		mg/L	06/25/2010 1941 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	07/06/2010 1630 AS	EPA 350.1
Gross Alpha	ND	2		pCi/L	07/13/2010 2116 SH	SM 7110B
Gross Beta	9.3 ± 1.5	3		pCi/L	07/13/2010 2116 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	07/28/2010 1124 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	07/29/2010 1630 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	07/20/2010 120 SH	Ra-05
Lead 210 (Dissolved)	1.29 ± 0.58	1		pCi/L	07/27/2010 1317 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	07/23/2010 2138 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	07/27/2010 1756 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	07/26/2010 2319 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2	L	pCi/L	07/30/2010 000 LJK	ACW10
Thorium 230 (Suspended)	ND	0.2	L	pCi/L	07/30/2010 000 LJK	ACW10
Uranium Suspended	ND	0.001		mg/L	07/01/2010 1412 MS	EPA 200.8
Turbidity	5.8	0.1		NTU	06/25/2010 922 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	49	5		mg/L	06/25/2010 1941 KO	SM 2320B
Alkalinity, Carbonate as CO3	9	5		mg/L	06/25/2010 1941 KO	SM 2320B
Chloride	ND	1		mg/L	06/29/2010 000 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	06/25/2010 1941 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	07/08/2010 1147 AS	EPA 353.2
Sulfate	5	1		mg/L	06/29/2010 000 KO	EPA 300.0

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: Lacey Ketron

Lacey Ketron, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/5/2010
Report ID: S1006462001

Project: ROSS ISR
Lab ID: S1006462-001
Client Sample ID: TW RES01
COC: 135254

Work Order: S1006462
Collection Date: 6/23/2010 10:00:00 AM
Date Received: 6/24/2010 8:06:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cations						
Calcium	12	1		mg/L	07/01/2010 1709 DG	EPA 200.7
Magnesium	3	1		mg/L	07/01/2010 1709 DG	EPA 200.7
Potassium	9	1		mg/L	07/01/2010 1709 DG	EPA 200.7
Sodium	7	1		mg/L	07/01/2010 1709 DG	EPA 200.7
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	0.80	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Carbonate as CO3	0.28	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Chloride	ND	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Fluoride	ND	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Sulfate	0.11	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Calcium	0.57	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Magnesium	0.23	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Potassium	0.23	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Sodium	0.29	0.01		meq/L	07/06/2010 910 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	1.33	0		meq/L	07/06/2010 910 KO	SM 1030E
Anion Sum	1.21	0		meq/L	07/06/2010 910 KO	SM 1030E
Cation-Anion Balance	4.95	0		%	07/06/2010 910 KO	SM 1030E

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Lacey Ketron, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/5/2010
Report ID: S1006462001

Project: ROSS ISR
Lab ID: S1006462-001
Client Sample ID: TW RES01
COC: 135254

Work Order: S1006462
Collection Date: 6/23/2010 10:00:00 AM
Date Received: 6/24/2010 8:06:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	06/25/2010 1438 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	06/25/2010 1559 MS	EPA 200.8
Barium	ND	0.5		mg/L	06/25/2010 1559 MS	EPA 200.8
Boron	ND	0.1		mg/L	06/25/2010 1438 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	06/25/2010 1559 MS	EPA 200.8
Chromium	ND	0.01		mg/L	06/25/2010 1438 DG	EPA 200.7
Copper	ND	0.01		mg/L	06/25/2010 1559 MS	EPA 200.8
Iron	0.20	0.05		mg/L	06/25/2010 1438 DG	EPA 200.7
Lead	ND	0.02		mg/L	06/25/2010 1559 MS	EPA 200.8
Mercury	ND	0.001		mg/L	07/01/2010 826 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	06/25/2010 1559 MS	EPA 200.8
Nickel	ND	0.01		mg/L	06/25/2010 1438 DG	EPA 200.7
Selenium	ND	0.005		mg/L	06/25/2010 1559 MS	EPA 200.8
Uranium	ND	0.001		mg/L	06/25/2010 1559 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	06/25/2010 1559 MS	EPA 200.8
Zinc	ND	0.01		mg/L	06/25/2010 1438 DG	EPA 200.7
Total Metals						
Iron	0.43	0.05		mg/L	06/28/2010 1643 DG	EPA 200.7
Manganese	0.02	0.02		mg/L	06/28/2010 1643 DG	EPA 200.7

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Qualifiers:

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M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Lacey Ketron, Project Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 6/30/2010
Report ID: S1005311001

Work Order: S1005311
Project: ROSS ISR
Collection Date: 5/21/2010 11:00:00 AM
Lab ID: S1005311-002
Date Received: 5/21/2010 3:44:00 PM
Client Sample ID: TWRES02
Sampler: RF
COC: 131149
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.03			s.u.	05/21/2010 1100	Field
Conductivity	414			µm hos/cm	05/21/2010 1100	Field
Dissolved Oxygen	4.37			mg /L	05/21/2010 1100	Field
Dissolved Oxygen (pct)	44.7			%	05/21/2010 1100	Field
Turbidity	11.91			NT U	05/21/2010 1100	Field
Temperature	15.5			°C	05/21/2010 1100	Field
General Parameters						
pH	8.6	0.1		s.u.	05/25/2010 1512 KO	SM 4500 H B
Electrical Conductivity	397	5		µmhos/cm	05/25/2010 1512 KO	SM 2510B
Total Dissolved Solids (180)	250	10		mg/L	05/24/2010 1700 MJH	SM 2540
Solids, Total Dissolved (Calc)	220	10		mg/L	06/04/2010 758 KO	SM 1030E
Total Suspended Solids	8	5		mg/L	05/25/2010 1055 MJH	SM 540
Alkalinity, Total (As CaCO3)	183	5		mg/L	05/25/2010 1512 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	06/08/2010 1501 AS	EPA 350.1
Gross Alpha	5.6 ± 2.3	2		pCi/L	06/29/2010 1914 SH	SM 7110B
Gross Beta	11.6 ± 2.5	3		pCi/L	06/29/2010 1914 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	06/14/2010 1502 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	06/15/2010 1640 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	06/19/2010 029 SH	Ra-05
Lead 210	ND	1		pCi/L	06/19/2010 1803 SH	OTW01
Lead 210 Suspended	ND	1		pCi/L	06/19/2010 2226 SH	OTW01
Polonium 210	ND	1		pCi/L	06/24/2010 2111 SH	OTW01
Polonium 210 Suspended	ND	1		pCi/L	06/25/2010 1822 SH	OTW01
Thorium 230	ND	0.2	L	pCi/L	06/18/2010 000 WN	ACW10
Thorium 230 Suspended	ND	0.2	L	pCi/L	06/18/2010 000 WN	ACW10
Uranium Suspended	0.003	0.001		mg/L	05/26/2010 1003 MS	EPA 200.8
Turbidity	9.1	0.1		NTU	05/21/2010 1628 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	209	5		mg/L	05/25/2010 1512 KO	SM 2320B
Alkalinity, Carbonate as CO3	7	5		mg/L	05/25/2010 1512 KO	SM 2320B
Chloride	2	1		mg/L	05/24/2010 2208 KO	EPA 300.0
Fluoride	0.1	0.1		mg/L	05/25/2010 1512 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	06/04/2010 1536 AS	EPA 353.2
Sulfate	28	1		mg/L	05/24/2010 2208 KO	EPA 300.0

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 6/30/2010
Report ID: S1005311001

Project: ROSS ISR
Lab ID: S1005311-002
Client Sample ID: TWRES02
COC: 131149

Work Order: S1005311
Collection Date: 5/21/2010 11:00:00 AM
Date Received: 5/21/2010 3:44:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cations						
Calcium	38	1		mg/L	05/24/2010 1601 RS	EPA 200.7
Magnesium	18	1		mg/L	05/24/2010 1601 RS	EPA 200.7
Potassium	5	1		mg/L	05/24/2010 1601 RS	EPA 200.7
Sodium	24	1		mg/L	05/24/2010 1601 RS	EPA 200.7
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	3.42	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Carbonate as CO3	0.23	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Chloride	0.06	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Fluoride	ND	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Sulfate	0.58	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Calcium	1.89	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Magnesium	1.44	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Potassium	0.12	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Sodium	1.02	0.01		meq/L	06/04/2010 758 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	4.48	0		meq/L	06/04/2010 758 KO	SM 1030E
Anion Sum	4.31	0		meq/L	06/04/2010 758 KO	SM 1030E
Cation-Anion Balance	1.97	0		%	06/04/2010 758 KO	SM 1030E

These results apply only to the samples tested.

RL - Reporting Limit

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 6/30/2010
Report ID: S1005311001

Project: ROSS ISR
Lab ID: S1005311-002
Client Sample ID: TWRES02
COC: 131149

Work Order: S1005311
Collection Date: 5/21/2010 11:00:00 AM
Date Received: 5/21/2010 3:44:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	05/24/2010 1601 RS	EPA 200.7
Arsenic	ND	0.005		mg/L	05/24/2010 1226 MS	EPA 200.8
Barium	ND	0.5		mg/L	05/24/2010 1226 MS	EPA 200.8
Boron	ND	0.1		mg/L	05/24/2010 1601 RS	EPA 200.7
Cadmium	ND	0.002		mg/L	05/24/2010 1226 MS	EPA 200.8
Chromium	ND	0.01		mg/L	05/24/2010 1601 RS	EPA 200.7
Copper	ND	0.01		mg/L	05/24/2010 1226 MS	EPA 200.8
Iron	ND	0.05		mg/L	05/24/2010 1601 RS	EPA 200.7
Lead	ND	0.02		mg/L	05/24/2010 1226 MS	EPA 200.8
Mercury	ND	0.001		mg/L	05/25/2010 1312 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	05/24/2010 1226 MS	EPA 200.8
Nickel	ND	0.01		mg/L	05/24/2010 1601 RS	EPA 200.7
Selenium	ND	0.005		mg/L	05/24/2010 1226 MS	EPA 200.8
Uranium	0.006	0.001		mg/L	05/24/2010 1226 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	05/24/2010 1226 MS	EPA 200.8
Zinc	ND	0.01		mg/L	05/24/2010 1601 RS	EPA 200.7
Total Metals						
Iron	0.37	0.05		mg/L	05/24/2010 1756 RS	EPA 200.7
Manganese	0.03	0.02		mg/L	05/24/2010 1756 RS	EPA 200.7

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RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004178001

Project: ROSS ISR
Lab ID: S1004178-001
Client Sample ID: SW-1
COC: 128478

Work Order: S1004178
Collection Date: 4/13/2010 12:30:00 PM
Date Received: 4/14/2010 3:34:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.39		s.u.		04/13/2010 1230	Field
Conductivity	1200		µm	hos/cm	04/13/2010 1230	Field
Dissolved Oxygen	7.28		mg	/L	04/13/2010 1230	Field
Dissolved Oxygen (pct)	64.6			%	04/13/2010 1230	Field
Turbidity	9.10		NT	U	04/13/2010 1230	Field
Temperature	9.8		°C		04/13/2010 1230	Field
General Parameters						
pH	8.7	0.1		s.u.	04/17/2010 113 KO	SM 4500 H B
Electrical Conductivity	1110	5		µmhos/cm	04/17/2010 113 KO	SM 2510B
Total Dissolved Solids (180)	790	10		mg/L	04/16/2010 1305 AMB	SM 2540
Solids, Total Dissolved (Calc)	730	10		mg/L	04/21/2010 1424 KO	SM 1030E
Total Suspended Solids	7	5		mg/L	04/15/2010 1425 AMB	SM 540
Alkalinity, Total (As CaCO3)	497	5		mg/L	04/17/2010 113 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	04/22/2010 925 SK	EPA 350.1
Gross Alpha	7.3 ± 2.2	2.00		pCi/L	04/27/2010 000 SH	SM 7110B
Gross Beta	9.7 ± 2.7	3.00		pCi/L	04/27/2010 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	04/28/2010 1500 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	04/28/2010 2121 SH	Ra-05
Turbidity	7.7	0.1		NTU	04/15/2010 818 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	542	5		mg/L	04/17/2010 113 KO	SM 2320B
Alkalinity, Carbonate as CO3	32	5		mg/L	04/17/2010 113 KO	SM 2320B
Chloride	8	1		mg/L	04/15/2010 2216 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	04/17/2010 113 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	04/20/2010 1445 SK	EPA 353.2
Sulfate	147	1		mg/L	04/15/2010 2216 KO	EPA 300.0
Cations						
Calcium	37	1		mg/L	04/16/2010 141 DG	EPA 200.7
Magnesium	24	1		mg/L	04/16/2010 141 DG	EPA 200.7
Potassium	11	1		mg/L	04/16/2010 141 DG	EPA 200.7
Sodium	204	1		mg/L	04/16/2010 141 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004178001

Project: ROSS ISR
Lab ID: S1004178-001
Client Sample ID: SW-1
COC: 128478

Work Order: S1004178
Collection Date: 4/13/2010 12:30:00 PM
Date Received: 4/14/2010 3:34:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	8.88	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Carbonate as CO3	1.05	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Chloride	0.21	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Sulfate	3.05	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Calcium	1.85	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Magnesium	2.00	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Potassium	0.28	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Sodium	8.85	0.01		meq/L	04/21/2010 1424 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	13.00	0		meq/L	04/21/2010 1424 KO	SM 1030E
Anion Sum	13.21	0		meq/L	04/21/2010 1424 KO	SM 1030E
Cation-Anion Balance	0.80	0		%	04/21/2010 1424 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	04/16/2010 141 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	04/15/2010 1003 MS	EPA 200.8
Barium	ND	0.5		mg/L	04/15/2010 1003 MS	EPA 200.8
Boron	0.1	0.1		mg/L	04/16/2010 141 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	04/15/2010 1003 MS	EPA 200.8
Chromium	ND	0.01		mg/L	04/16/2010 141 DG	EPA 200.7
Copper	ND	0.01		mg/L	04/15/2010 1003 MS	EPA 200.8
Iron	0.08	0.05		mg/L	04/16/2010 141 DG	EPA 200.7
Lead	ND	0.02		mg/L	04/15/2010 1003 MS	EPA 200.8
Mercury	ND	0.001		mg/L	04/16/2010 926 BK	EPA 245.2
Molybdenum	ND	0.02		mg/L	04/15/2010 1003 MS	EPA 200.8
Nickel	ND	0.01		mg/L	04/16/2010 141 DG	EPA 200.7
Selenium	ND	0.005		mg/L	04/15/2010 1003 MS	EPA 200.8
Uranium	0.011	0.001		mg/L	04/15/2010 1003 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	04/15/2010 1003 MS	EPA 200.8
Zinc	ND	0.01		mg/L	04/16/2010 141 DG	EPA 200.7
Total Metals						
Iron	0.37	0.05		mg/L	04/16/2010 1345 DG	EPA 200.7
Manganese	0.05	0.02		mg/L	04/16/2010 1345 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004177001

Work Order: S1004177
Project: ROSS ISR
Collection Date: 4/13/2010 8:30:00 AM
Lab ID: S1004177-001
Date Received: 4/14/2010 3:34:00 PM
Client Sample ID: SW-2
Sampler: RF
COC: 128483
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.35			s.u.	04/13/2010 830	Field
Conductivity	1348			µm hos/cm	04/13/2010 830	Field
Dissolved Oxygen	7.59			mg /L	04/13/2010 830	Field
Dissolved Oxygen (pct)	63.4			%	04/13/2010 830	Field
Turbidity	3.86			NT U	04/13/2010 830	Field
Temperature	7.8			°C	04/13/2010 830	Field
General Parameters						
pH	8.6	0.1		s.u.	04/17/2010 028 KO	SM 4500 H B
Electrical Conductivity	1250	5		µmhos/cm	04/17/2010 028 KO	SM 2510B
Total Dissolved Solids (180)	940	10		mg/L	04/16/2010 1255 AMB	SM 2540
Solids, Total Dissolved (Calc)	850	10		mg/L	04/21/2010 1426 KO	SM 1030E
Total Suspended Solids	6	5		mg/L	04/15/2010 1415 AMB	SM 540
Alkalinity, Total (As CaCO3)	600	5		mg/L	04/17/2010 028 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	04/22/2010 917 SK	EPA 350.1
Gross Alpha	7.9 ± 2.5	2.00		pCi/L	04/27/2010 000 SH	SM 7110B
Gross Beta	7.4 ± 2.6	3.00		pCi/L	04/27/2010 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	04/28/2010 1500 SH	SM 7500-Ra B
Total Radium 228	1.30 ± 0.78	1.00		pCi/L	04/28/2010 2121 SH	Ra-05
Turbidity	2.3	0.1		NTU	04/15/2010 814 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	655	5		mg/L	04/17/2010 028 KO	SM 2320B
Alkalinity, Carbonate as CO3	38	5		mg/L	04/17/2010 028 KO	SM 2320B
Chloride	10	1		mg/L	04/15/2010 2145 KO	EPA 300.0
Fluoride	0.3	0.1		mg/L	04/17/2010 028 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	04/20/2010 1442 SK	EPA 353.2
Sulfate	168	1		mg/L	04/15/2010 2145 KO	EPA 300.0
Cations						
Calcium	58	1		mg/L	04/16/2010 125 DG	EPA 200.7
Magnesium	29	1		mg/L	04/16/2010 125 DG	EPA 200.7
Potassium	7	1		mg/L	04/16/2010 125 DG	EPA 200.7
Sodium	216	1		mg/L	04/16/2010 125 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004177001

Project: ROSS ISR
Lab ID: S1004177-001
Client Sample ID: SW-2
COC: 128483

Work Order: S1004177
Collection Date: 4/13/2010 8:30:00 AM
Date Received: 4/14/2010 3:34:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	10.73	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Carbonate as CO3	1.26	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Chloride	0.27	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Sulfate	3.49	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Calcium	2.86	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Magnesium	2.40	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Potassium	0.18	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Sodium	9.40	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	14.86	0		meq/L	04/21/2010 1426 KO	SM 1030E
Anion Sum	15.78	0		meq/L	04/21/2010 1426 KO	SM 1030E
Cation-Anion Balance	2.98	0		%	04/21/2010 1426 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	04/16/2010 125 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	04/15/2010 948 MS	EPA 200.8
Barium	ND	0.5		mg/L	04/15/2010 948 MS	EPA 200.8
Boron	ND	0.1		mg/L	04/16/2010 125 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	04/15/2010 948 MS	EPA 200.8
Chromium	ND	0.01		mg/L	04/16/2010 125 DG	EPA 200.7
Copper	ND	0.01		mg/L	04/15/2010 948 MS	EPA 200.8
Iron	0.14	0.05		mg/L	04/16/2010 125 DG	EPA 200.7
Lead	ND	0.02		mg/L	04/15/2010 948 MS	EPA 200.8
Mercury	ND	0.001		mg/L	04/16/2010 919 BK	EPA 245.2
Molybdenum	ND	0.02		mg/L	04/15/2010 948 MS	EPA 200.8
Nickel	ND	0.01		mg/L	04/16/2010 125 DG	EPA 200.7
Selenium	ND	0.005		mg/L	04/15/2010 948 MS	EPA 200.8
Uranium	0.020	0.001		mg/L	04/15/2010 948 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	04/15/2010 948 MS	EPA 200.8
Zinc	ND	0.01		mg/L	04/16/2010 125 DG	EPA 200.7
Total Metals						
Iron	0.32	0.05		mg/L	04/16/2010 1338 DG	EPA 200.7
Manganese	0.05	0.02		mg/L	04/16/2010 1338 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004177001

Project: ROSS ISR
Lab ID: S1004177-002
Client Sample ID: SW-3
COC: 128483

Work Order: S1004177
Collection Date: 4/13/2010 11:30:00 AM
Date Received: 4/14/2010 3:34:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	8.86		s.u.		04/13/2010 1130	Field
Conductivity	1209		µm	hos/cm	04/13/2010 1130	Field
Dissolved Oxygen	8.77		mg	/L	04/13/2010 1130	Field
Dissolved Oxygen (pct)	78.3			%	04/13/2010 1130	Field
Turbidity	16.29		NT	U	04/13/2010 1130	Field
Temperature	10.0		°C		04/13/2010 1130	Field
General Parameters						
pH	8.8	0.1		s.u.	04/17/2010 044 KO	SM 4500 H B
Electrical Conductivity	1120	5		µmhos/cm	04/17/2010 044 KO	SM 2510B
Total Dissolved Solids (180)	800	10		mg/L	04/16/2010 1300 AMB	SM 2540
Solids, Total Dissolved (Calc)	730	10		mg/L	04/21/2010 1426 KO	SM 1030E
Total Suspended Solids	14	5		mg/L	04/15/2010 1420 AMB	SM 2540
Alkalinity, Total (As CaCO3)	586	5		mg/L	04/17/2010 044 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	04/22/2010 924 SK	EPA 350.1
Gross Alpha	6.0 ± 2.3	2.00		pCi/L	04/27/2010 000 SH	SM 7110B
Gross Beta	9.8 ± 2.7	3.00		pCi/L	04/27/2010 000 SH	SM 7110B
Radium 226	ND	0.2		pCi/L	04/28/2010 1500 SH	SM 7500-Ra B
Total Radium 228	ND	1		pCi/L	04/28/2010 2121 SH	Ra-05
Turbidity	14.4	0.1		NTU	04/15/2010 816 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	619	5		mg/L	04/17/2010 044 KO	SM 2320B
Alkalinity, Carbonate as CO3	47	5		mg/L	04/17/2010 044 KO	SM 2320B
Chloride	7	1		mg/L	04/15/2010 2201 KO	EPA 300.0
Fluoride	0.3	0.1		mg/L	04/17/2010 044 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	04/20/2010 1444 SK	EPA 353.2
Sulfate	102	1		mg/L	04/15/2010 2201 KO	EPA 300.0
Cations						
Calcium	32	1		mg/L	04/16/2010 132 DG	EPA 200.7
Magnesium	35	1		mg/L	04/16/2010 132 DG	EPA 200.7
Potassium	11	1		mg/L	04/16/2010 132 DG	EPA 200.7
Sodium	196	1		mg/L	04/16/2010 132 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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ND	Not Detected at the Reporting Limit
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Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 4/29/2010
Report ID: S1004177001

Project: ROSS ISR
Lab ID: S1004177-002
Client Sample ID: SW-3
COC: 128483

Work Order: S1004177
Collection Date: 4/13/2010 11:30:00 AM
Date Received: 4/14/2010 3:34:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	10.14	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Carbonate as CO3	1.57	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Chloride	0.18	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Sulfate	2.11	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Calcium	1.59	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Magnesium	2.89	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Potassium	0.27	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Sodium	8.53	0.01		meq/L	04/21/2010 1426 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	13.30	0		meq/L	04/21/2010 1426 KO	SM 1030E
Anion Sum	14.03	0		meq/L	04/21/2010 1426 KO	SM 1030E
Cation-Anion Balance	2.66	0		%	04/21/2010 1426 KO	SM 1030E
Dissolved Metals						
Aluminum	ND	0.1		mg/L	04/16/2010 132 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	04/15/2010 959 MS	EPA 200.8
Barium	ND	0.5		mg/L	04/15/2010 959 MS	EPA 200.8
Boron	0.1	0.1		mg/L	04/16/2010 132 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	04/15/2010 959 MS	EPA 200.8
Chromium	ND	0.01		mg/L	04/16/2010 132 DG	EPA 200.7
Copper	ND	0.01		mg/L	04/15/2010 959 MS	EPA 200.8
Iron	0.07	0.05		mg/L	04/16/2010 132 DG	EPA 200.7
Lead	ND	0.02		mg/L	04/15/2010 959 MS	EPA 200.8
Mercury	ND	0.001		mg/L	04/16/2010 924 BK	EPA 245.2
Molybdenum	ND	0.02		mg/L	04/15/2010 959 MS	EPA 200.8
Nickel	ND	0.01		mg/L	04/16/2010 132 DG	EPA 200.7
Selenium	ND	0.005		mg/L	04/15/2010 959 MS	EPA 200.8
Uranium	0.014	0.001		mg/L	04/15/2010 959 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	04/15/2010 959 MS	EPA 200.8
Zinc	ND	0.01		mg/L	04/16/2010 132 DG	EPA 200.7
Total Metals						
Iron	0.58	0.05		mg/L	04/16/2010 1341 DG	EPA 200.7
Manganese	0.21	0.02		mg/L	04/16/2010 1341 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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J	Analyte detected below quantitation limits
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RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CS RES 02 **Date:** 8-10-10 **Time:** 1530

Landowner
Name: Strong
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name: —

Permit No. —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 7.36
Cond. 359 µS
Temp. °C 28.8°C
Turbidity (ntu) 379
D.O. (mg/L) 0.46 / 6.1%

Water Level (ft): 1/8 Full

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp: 90°F

Comments: Water turbid - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CSRES03 **Date:** 8-10-10 **Time:** 1600

Landowner
Name: Strong
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s) ~ **Stock** ✓

Domestic

SEO Permitted Facility Name: — **Permit No.** —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.78
Cond. 602 µS
Temp. ° C 26.6
Turbidity (ntu) 15.72
D.O. (mg/L) 4.32 / 54.2 %

Water Level (ft): 1/8 full **% Combustible Gas:**

Casing Height (ft): **Ambient Air Temp:** 90 °F

Comments: Water turbid - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: HB RES04 Oshoto Res. **Date:** 7-21-10 **Time:** 1500

Landowner
Name: Berger
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. P6046R

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.46
Cond. 890 µS
Temp. °C 23.9
Turbidity (ntu) 4.32
D.O. (mg/L) 5.34 / 63.9

Water Level (ft): Res 95% full **% Combustible Gas:**

Casing Height (ft): **Ambient Air Temp:** 75°F

Comments: Water slightly turbid (light Brown/yellow - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: P155075 **Date:** 8-24-10 **Time:** 1330

Landowner
Name: Swonda
Address
Phone#

Legal Location
Qtr/Qtr NWSE
SEC 13
TWN T53
RNG R68

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name: Deadman #1

Permit No. P155075

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.93
Cond. 1862 µS
Temp. °C 25.2
Turbidity (ntu) 596
D.O. (mg/L) turbidity to high to measure

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp: 80°F

Comments: One reservoir in a chain of reservoirs - Reservoirs include: TSRES01, P155075, TSRES02, and P155085. Water very turbid (596) - greenish/yellow color - Could not measure D.O. due to turbidity - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TW RES 01 **Date:** 7-22-10 **Time:** 0900

Landowner
Name: Wesley
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.61
Cond. 156.9 µS
Temp. °C 20.2
Turbidity (ntu) 6.05
D.O. (mg/L) 4.90 / 55%

Water Level (ft): Abv 1/4 full **% Combustible Gas:**

Casing Height (ft): **Ambient Air Temp:** 70°F

Comments:

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TWRES02 **Date:** 7-22-10 **Time:** 1030

Landowner
Name: Wesley
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 10.46
Cond. 281 µS
Temp. ° C 21.8
Turbidity (ntu) 3.22
D.O. (mg/L) 6.72 / 77.6%

Water Level (ft): Res 1/4 full **% Combustible Gas:**

Casing Height (ft): **Ambient Air Temp:** 70°F

Comments: Water slightly turbid (yellow/brown) - no odor

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/12/2010
Report ID: S1008198001

Work Order: S1008198
Project: ROSS
Collection Date: 8/10/2010 3:30:00 PM
Lab ID: S1008198-001
Date Received: 8/12/2010 9:08:00 AM
Client Sample ID: CS RES 02
Sampler: RF
COC: 131165
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	7.36			s.u.	08/10/2010 1530	Field
Conductivity	359			µm hos/cm	08/10/2010 1530	Field
Dissolved Oxygen	0.46			mg /L	08/10/2010 1530	Field
Dissolved Oxygen (pct)	6.1			%	08/10/2010 1530	Field
Turbidity	379			NT U	08/10/2010 1530	Field
Temperature	28.8			°C	08/10/2010 1530	Field
General Parameters						
pH	7.5	0.1		s.u.	08/13/2010 1950 KO	SM 4500 H B
Electrical Conductivity	327	5		µmhos/cm	08/13/2010 1950 KO	SM 2510B
Total Dissolved Solids (180)	370	10		mg/L	08/12/2010 1710 AMB	SM 2540
Solids, Total Dissolved (Calc)	170	10		mg/L	08/25/2010 744 KO	SM 1030E
Total Suspended Solids	80	5		mg/L	08/16/2010 1040 AMB	SM 2540
Alkalinity, Total (As CaCO3)	147	5		mg/L	08/18/2010 1217 KO	SM 2320B
Nitrogen, Ammonia (As N)	4.0	0.1		mg/L	08/25/2010 1506 AS	EPA 350.1
Turbidity	315	0.1		NTU	08/12/2010 1414 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	179	5		mg/L	08/18/2010 1217 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	08/18/2010 1217 KO	SM 2320B
Chloride	9	1		mg/L	08/16/2010 1401 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	08/13/2010 1950 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/20/2010 1519 AS	EPA 353.2
Sulfate	1	1		mg/L	08/16/2010 1401 KO	EPA 300.0
Cations						
Calcium	34	1		mg/L	08/19/2010 1821 DG	EPA 200.7
Magnesium	7	1		mg/L	08/19/2010 1821 DG	EPA 200.7
Potassium	23	1		mg/L	08/19/2010 1821 DG	EPA 200.7
Sodium	5	1		mg/L	08/19/2010 1821 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/12/2010
Report ID: S1008198001

Project: ROSS
Lab ID: S1008198-001
Client Sample ID: CS RES 02
COC: 131165

Work Order: S1008198
Collection Date: 8/10/2010 3:30:00 PM
Date Received: 8/12/2010 9:08:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	2.93	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Chloride	0.25	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Fluoride	ND	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Sulfate	0.02	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Calcium	1.69	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Magnesium	0.58	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Potassium	0.59	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Sodium	0.22	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	3.09	0		meq/L	08/25/2010 744 KO	SM 1030E
Anion Sum	3.21	0		meq/L	08/25/2010 744 KO	SM 1030E
Cation-Anion Balance	1.81	0		%	08/25/2010 744 KO	SM 1030E
Radio Chemistry						
Gross Alpha	7.4 ± 1.6	2		pCi/L	09/29/2010 1956 SH	SM 7110B
Gross Beta	28.7 ± 2.3	3		pCi/L	09/29/2010 1956 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	09/21/2010 1236 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	09/25/2010 1558 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	09/21/2010 2313 SH	Ra-05
Lead 210 (Dissolved)	ND	1		pCi/L	09/02/2010 1801 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	09/08/2010 2213 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	09/02/2010 1801 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	09/08/2010 2213 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2	L	pCi/L	09/24/2010 1127 WN	ACW10
Thorium 230 (Suspended)	ND	0.2	L	pCi/L	09/24/2010 1127 WN	ACW10
Uranium Suspended	ND	0.001		mg/L	08/23/2010 1048 MS	EPA 200.8

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/12/2010
Report ID: S1008198001

Project: ROSS
Lab ID: S1008198-001
Client Sample ID: CS RES 02
COC: 131165

Work Order: S1008198
Collection Date: 8/10/2010 3:30:00 PM
Date Received: 8/12/2010 9:08:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	0.2	0.1		mg/L	08/12/2010 1725 DG	EPA 200.7
Arsenic	0.021	0.005		mg/L	08/12/2010 1423 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/12/2010 1423 MS	EPA 200.8
Boron	ND	0.1		mg/L	08/12/2010 1725 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/12/2010 1423 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/12/2010 1725 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/12/2010 1423 MS	EPA 200.8
Iron	0.20	0.05		mg/L	08/12/2010 1725 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/12/2010 1423 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/17/2010 935 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/12/2010 1423 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/12/2010 1725 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/12/2010 1423 MS	EPA 200.8
Silver	ND	0.003		mg/L	08/12/2010 1423 MS	EPA 200.8
Uranium	ND	0.001		mg/L	08/12/2010 1423 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/12/2010 1423 MS	EPA 200.8
Zinc	ND	0.01		mg/L	08/12/2010 1725 DG	EPA 200.7
Total Metals						
Iron	16.7	0.05		mg/L	08/13/2010 1345 DG	EPA 200.7
Manganese	1.24	0.02		mg/L	08/13/2010 1345 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/12/2010
Report ID: S1008198001

Work Order: S1008198
Project: ROSS
Collection Date: 8/10/2010 4:00:00 PM
Lab ID: S1008198-002
Date Received: 8/12/2010 9:08:00 AM
Client Sample ID: CS RES 03
Sampler: RF
COC: 131165
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.78			s.u.	08/10/2010 1600	Field
Conductivity	602			µm	hos/cm 08/10/2010 1600	Field
Dissolved Oxygen	4.32			mg	/L 08/10/2010 1600	Field
Dissolved Oxygen (pct)	54.2			%	08/10/2010 1600	Field
Turbidity	15.72			NT	U 08/10/2010 1600	Field
Temperature	26.6			°C	08/10/2010 1600	Field
General Parameters						
pH	9.2	0.1		s.u.	08/13/2010 2000 KO	SM 4500 H B
Electrical Conductivity	544	5		µmhos/cm	08/13/2010 2000 KO	SM 2510B
Total Dissolved Solids (180)	420	10		mg/L	08/12/2010 1715 AMB	SM 2540
Solids, Total Dissolved (Calc)	330	10		mg/L	08/25/2010 744 KO	SM 1030E
Total Suspended Solids	19	5		mg/L	08/16/2010 1045 AMB	SM 2540
Alkalinity, Total (As CaCO3)	154	5		mg/L	08/23/2010 1252 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.1	0.1		mg/L	08/25/2010 1507 AS	EPA 350.1
Turbidity	9.9	0.1		NTU	08/12/2010 1416 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	106	5		mg/L	08/23/2010 1252 KO	SM 2320B
Alkalinity, Carbonate as CO3	41	5		mg/L	08/23/2010 1252 KO	SM 2320B
Chloride	5	1		mg/L	08/16/2010 1412 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	08/13/2010 2000 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/20/2010 1520 AS	EPA 353.2
Sulfate	111	1		mg/L	08/16/2010 1412 KO	EPA 300.0
Cations						
Calcium	28	1		mg/L	08/12/2010 1727 DG	EPA 200.7
Magnesium	12	1		mg/L	08/12/2010 1727 DG	EPA 200.7
Potassium	14	1		mg/L	08/12/2010 1727 DG	EPA 200.7
Sodium	69	1		mg/L	08/12/2010 1727 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/12/2010
Report ID: S1008198001

Project: ROSS
Lab ID: S1008198-002
Client Sample ID: CS RES 03
COC: 131165

Work Order: S1008198
Collection Date: 8/10/2010 4:00:00 PM
Date Received: 8/12/2010 9:08:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	1.73	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Carbonate as CO3	1.35	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Chloride	0.13	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Fluoride	ND	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Sulfate	2.31	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Calcium	1.37	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Magnesium	1.00	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Potassium	0.36	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Sodium	3.01	0.01		meq/L	08/25/2010 744 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	5.76	0		meq/L	08/25/2010 744 KO	SM 1030E
Anion Sum	5.53	0		meq/L	08/25/2010 744 KO	SM 1030E
Cation-Anion Balance	2.04	0		%	08/25/2010 744 KO	SM 1030E
Radio Chemistry						
Gross Alpha	2.5 ± 0.7	2		pCi/L	09/29/2010 1956 SH	SM 7110B
Gross Beta	12.1 ± 1.1	3		pCi/L	09/29/2010 1956 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	09/21/2010 1236 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	09/25/2010 1558 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	09/21/2010 2313 SH	Ra-05
Lead 210 (Dissolved)	ND	1		pCi/L	09/17/2010 1605 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	09/08/2010 2213 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	09/17/2010 1605 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	09/08/2010 2213 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2	L	pCi/L	09/24/2010 1127 WN	ACW10
Thorium 230 (Suspended)	ND	0.2	L	pCi/L	09/24/2010 1127 WN	ACW10
Uranium Suspended	ND	0.001		mg/L	08/23/2010 1055 MS	EPA 200.8

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
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O	Outside the Range of Dilutions

RL - Reporting Limit

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H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/12/2010
Report ID: S1008198001

Work Order: S1008198
Project: ROSS
Collection Date: 8/10/2010 4:00:00 PM
Lab ID: S1008198-002
Date Received: 8/12/2010 9:08:00 AM
Client Sample ID: CS RES 03
Sampler: RF
COC: 131165
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	08/12/2010 1727 DG	EPA 200.7
Arsenic	0.012	0.005		mg/L	08/12/2010 1427 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/12/2010 1427 MS	EPA 200.8
Boron	ND	0.1		mg/L	08/12/2010 1727 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/12/2010 1427 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/12/2010 1727 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/12/2010 1427 MS	EPA 200.8
Iron	ND	0.05		mg/L	08/12/2010 1727 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/12/2010 1427 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/17/2010 937 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/12/2010 1427 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/12/2010 1727 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/12/2010 1427 MS	EPA 200.8
Silver	ND	0.003		mg/L	08/12/2010 1427 MS	EPA 200.8
Uranium	0.002	0.001		mg/L	08/12/2010 1427 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/12/2010 1427 MS	EPA 200.8
Zinc	ND	0.01		mg/L	08/12/2010 1727 DG	EPA 200.7
Total Metals						
Iron	0.45	0.05		mg/L	08/13/2010 1347 DG	EPA 200.7
Manganese	0.06	0.02		mg/L	08/13/2010 1347 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/25/2010
Report ID: S1007313001

Work Order: S1007313
Project: ROSS
Collection Date: 7/21/2010 3:00:00 PM
Lab ID: S1007313-005
Date Received: 7/22/2010 8:07:00 AM
Client Sample ID: HBRES04 (Oshoto Reservoir)
Sampler: RF
COC: 131154
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.46	s.u.			07/21/2010 1500	Field
Conductivity	890	µm		hos/cm	07/21/2010 1500	Field
Dissolved Oxygen	5.34	mg		/L	07/21/2010 1500	Field
Dissolved Oxygen (pct)	63.9			%	07/21/2010 1500	Field
Turbidity	4.32	NT		U	07/21/2010 1500	Field
Temperature	23.9	°C			07/21/2010 1500	Field
General Parameters						
pH	9.2	0.1		s.u.	07/23/2010 2203 LJK	SM 4500 H B
Electrical Conductivity	965	5		µmhos/cm	07/23/2010 2203 LJK	SM 2510B
Total Dissolved Solids (180)	640	10		mg/L	07/22/2010 1230 MJH	SM 2540
Solids, Total Dissolved (Calc)	590	10		mg/L	07/29/2010 753 KO	SM 1030E
Total Suspended Solids	ND	5		mg/L	07/22/2010 958 MJH	SM 2540
Alkalinity, Total (As CaCO3)	430	5		mg/L	07/23/2010 2203 LJK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	07/30/2010 1617 AS	EPA 350.1
Gross Alpha	7.34 ± 1.58	2		pCi/L	08/21/2010 1206 SH	SM 7110B
Gross Beta	11.5 ± 2.0	3.5		pCi/L	08/21/2010 1206 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	08/16/2010 1825 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	08/13/2010 2222 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	08/24/2010 224 SH	Ra-05
Lead 210 (Dissolved)	ND	1		pCi/L	08/15/2010 2316 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	08/17/2010 000 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	08/14/2010 2028 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	08/17/2010 000 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2	L	pCi/L	08/09/2010 000 WN	ACW10
Thorium 230 (Suspended)	ND	0.2	L	pCi/L	08/09/2010 000 WN	ACW10
Uranium Suspended	ND	0.001		mg/L	07/26/2010 1720 MS	EPA 200.8
Turbidity	3.1	0.1		NTU	07/21/2010 1426 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	347	5		mg/L	07/23/2010 2203 LJK	SM 2320B
Alkalinity, Carbonate as CO3	88	5		mg/L	07/23/2010 2203 LJK	SM 2320B
Chloride	7	1		mg/L	07/28/2010 000 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	07/26/2010 1533 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	07/30/2010 1509 AS	EPA 353.2
Sulfate	97	1		mg/L	07/28/2010 000 KO	EPA 300.0

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/25/2010
Report ID: S1007313001

Work Order: S1007313
Project: ROSS
Collection Date: 7/21/2010 3:00:00 PM
Lab ID: S1007313-005
Date Received: 7/22/2010 8:07:00 AM
Client Sample ID: HBRES04 (Oshoto Reservoir)
Sampler: RF
COC: 131154
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cations						
Calcium	15	1		mg/L	07/27/2010 1351 DG	EPA 200.7
Magnesium	23	1		mg/L	07/22/2010 1339 RS	EPA 200.7
Potassium	12	1		mg/L	07/27/2010 1351 DG	EPA 200.7
Sodium	177	1		mg/L	07/22/2010 1339 RS	EPA 200.7
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	5.68	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Carbonate as CO3	2.92	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Chloride	0.18	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Fluoride	ND	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Sulfate	2.02	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Calcium	0.76	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Magnesium	1.89	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Potassium	0.29	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Sodium	7.68	0.01		meq/L	07/29/2010 753 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	10.63	0		meq/L	07/29/2010 753 KO	SM 1030E
Anion Sum	10.82	0		meq/L	07/29/2010 753 KO	SM 1030E
Cation-Anion Balance	0.92	0		%	07/29/2010 753 KO	SM 1030E

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 8/25/2010
Report ID: S1007313001

Project: ROSS
Lab ID: S1007313-005
Client Sample ID: HBRES04 (Oshoto Reservoir)
COC: 131154

Work Order: S1007313
Collection Date: 7/21/2010 3:00:00 PM
Date Received: 7/22/2010 8:07:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	07/23/2010 1906 RS	EPA 200.7
Arsenic	0.008	0.005		mg/L	07/22/2010 1130 MS	EPA 200.8
Barium	ND	0.5		mg/L	07/22/2010 1130 MS	EPA 200.8
Boron	0.1	0.1		mg/L	07/23/2010 1906 RS	EPA 200.7
Cadmium	ND	0.002		mg/L	07/22/2010 1130 MS	EPA 200.8
Chromium	ND	0.01		mg/L	07/23/2010 1906 RS	EPA 200.7
Copper	ND	0.01		mg/L	07/22/2010 1130 MS	EPA 200.8
Iron	ND	0.05		mg/L	07/23/2010 1906 RS	EPA 200.7
Lead	ND	0.02		mg/L	07/22/2010 1130 MS	EPA 200.8
Mercury	ND	0.001		mg/L	07/23/2010 913 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	07/22/2010 1130 MS	EPA 200.8
Nickel	ND	0.01		mg/L	07/23/2010 1906 RS	EPA 200.7
Selenium	ND	0.005		mg/L	07/22/2010 1130 MS	EPA 200.8
Silver	ND	0.003		mg/L	07/22/2010 1130 MS	EPA 200.8
Uranium	0.009	0.001		mg/L	07/22/2010 1130 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	07/22/2010 1130 MS	EPA 200.8
Zinc	ND	0.01		mg/L	07/23/2010 1906 RS	EPA 200.7
Total Metals						
Iron	0.07	0.05		mg/L	07/23/2010 1931 RS	EPA 200.7
Manganese	0.03	0.02		mg/L	07/23/2010 1931 RS	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/21/2010
Report ID: S1008471001

Project: ROSS ISR
Lab ID: S1008471-004
Client Sample ID: P15507S
COC: 131167

Work Order: S1008471
Collection Date: 8/24/2010 1:30:00 PM
Date Received: 8/25/2010 4:17:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.93			s.u.	08/24/2010 1330	Field
Conductivity	1862			µmhos/cm	08/24/2010 1330	Field
Turbidity	596.0			NT U	08/24/2010 1330	Field
Temperature	25.2			°C	08/24/2010 1330	Field
General Parameters						
pH	9.2	0.1		s.u.	08/26/2010 1803 KO	SM 4500 H B
Electrical Conductivity	2010	5		µmhos/cm	08/26/2010 1803 KO	SM 2510B
Total Dissolved Solids (180)	1510	10		mg/L	08/27/2010 1135 AMB	SM 2540
Solids, Total Dissolved (Calc)	1350	10		mg/L	09/03/2010 757 KO	SM 1030E
Total Suspended Solids	530	5		mg/L	08/30/2010 1205 AMB	SM 2540
Alkalinity, Total (As CaCO3)	1210	5		mg/L	08/26/2010 1803 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.2	0.1		mg/L	09/08/2010 955 AS	EPA 350.1
Turbidity	392	0.1		NTU	08/26/2010 1320 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	1130	5		mg/L	08/26/2010 1803 KO	SM 2320B
Alkalinity, Carbonate as CO3	169	5		mg/L	08/26/2010 1803 KO	SM 2320B
Chloride	12	1		mg/L	08/26/2010 1727 KO	EPA 300.0
Fluoride	0.5	0.1		mg/L	08/26/2010 1803 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	08/31/2010 1749 AS	EPA 353.2
Sulfate	54	1		mg/L	08/26/2010 1727 KO	EPA 300.0
Cations						
Calcium	16	1		mg/L	08/30/2010 1047 DG	EPA 200.7
Magnesium	42	1		mg/L	08/30/2010 1047 DG	EPA 200.7
Potassium	31	1		mg/L	08/30/2010 1047 DG	EPA 200.7
Sodium	467	1		mg/L	08/30/2010 1047 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/21/2010
Report ID: S1008471001

Project: ROSS ISR
Lab ID: S1008471-004
Client Sample ID: P15507S
COC: 131167

Work Order: S1008471
Collection Date: 8/24/2010 1:30:00 PM
Date Received: 8/25/2010 4:17:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	18.59	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Carbonate as CO3	5.62	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Chloride	0.32	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Fluoride	0.02	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Sulfate	1.11	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Calcium	0.80	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Magnesium	3.47	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Potassium	0.79	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Sodium	20.29	0.01		meq/L	09/03/2010 757 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	25.37	0		meq/L	09/03/2010 757 KO	SM 1030E
Anion Sum	25.69	0		meq/L	09/03/2010 757 KO	SM 1030E
Cation-Anion Balance	0.62	0		%	09/03/2010 757 KO	SM 1030E
Radio Chemistry						
Gross Alpha	27.3 ± 4.7	2		pCi/L	10/02/2010 2207 SH	SM 7110B
Gross Beta	44.4 ± 4.4	3		pCi/L	10/02/2010 2207 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/05/2010 834 SH	SM 7500-Ra B
Radium 226 (Suspended)	0.3 ± 0.1	0.2		pCi/L	09/25/2010 1558 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/10/2010 2120 SH	Ra-05
Lead 210 (Dissolved)	ND	1		pCi/L	09/29/2010 1616 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	09/23/2010 1443 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	09/29/2010 1616 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	09/23/2010 1443 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2		pCi/L	10/20/2010 1407 WN	ACW10
Thorium 230 (Suspended)	0.46±0.16	0.2		pCi/L	10/20/2010 1407 WN	ACW10
Uranium Suspended	0.003	0.001		mg/L	09/08/2010 1150 MS	EPA 200.8

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/21/2010
Report ID: S1008471001

Project: ROSS ISR
Lab ID: S1008471-004
Client Sample ID: P15507S
COC: 131167

Work Order: S1008471
Collection Date: 8/24/2010 1:30:00 PM
Date Received: 8/25/2010 4:17:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	08/30/2010 1047 DG	EPA 200.7
Arsenic	0.016	0.005		mg/L	08/26/2010 1705 MS	EPA 200.8
Barium	ND	0.5		mg/L	08/26/2010 1705 MS	EPA 200.8
Boron	0.3	0.1		mg/L	08/30/2010 1047 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	08/26/2010 1705 MS	EPA 200.8
Chromium	ND	0.01		mg/L	08/30/2010 1047 DG	EPA 200.7
Copper	ND	0.01		mg/L	08/26/2010 1705 MS	EPA 200.8
Iron	0.13	0.05		mg/L	08/30/2010 1047 DG	EPA 200.7
Lead	ND	0.02		mg/L	08/26/2010 1705 MS	EPA 200.8
Mercury	ND	0.001		mg/L	08/31/2010 813 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	08/26/2010 1705 MS	EPA 200.8
Nickel	ND	0.01		mg/L	08/30/2010 1047 DG	EPA 200.7
Selenium	ND	0.005		mg/L	08/26/2010 1705 MS	EPA 200.8
Silver	ND	0.003		mg/L	08/26/2010 1705 MS	EPA 200.8
Uranium	0.021	0.001		mg/L	08/26/2010 1705 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	08/26/2010 1705 MS	EPA 200.8
Zinc	ND	0.01		mg/L	08/30/2010 1047 DG	EPA 200.7
Total Metals						
Iron	6.28	0.05		mg/L	08/30/2010 1710 DG	EPA 200.7
Manganese	0.34	0.02		mg/L	08/30/2010 1710 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 9/1/2010
Report ID: S1007330001

Work Order: S1007330
Project: ROSS
Collection Date: 7/22/2010 9:00:00 AM
Lab ID: S1007330-001
Date Received: 7/23/2010 8:50:00 AM
Client Sample ID: TW RES01
Sampler: RF
COC: 128480
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.61			s.u.	07/22/2010 900	Field
Conductivity	156.9			µm hos/cm	07/22/2010 900	Field
Dissolved Oxygen	4.90			mg /L	07/22/2010 900	Field
Dissolved Oxygen (pct)	55.0			%	07/22/2010 900	Field
Turbidity	6.05			NT U	07/22/2010 900	Field
Temperature	20.2			°C	07/22/2010 900	Field
General Parameters						
pH	8.7	0.1		s.u.	07/23/2010 2349 LJK	SM 4500 H B
Electrical Conductivity	133	5		µmhos/cm	07/23/2010 2349 LJK	SM 2510B
Total Dissolved Solids (180)	100	10		mg/L	07/23/2010 1010 MJH	SM 2540
Solids, Total Dissolved (Calc)	70	10		mg/L	07/27/2010 907 KO	SM 1030E
Total Suspended Solids	6	5		mg/L	07/27/2010 1005 MJH	SM 540
Alkalinity, Total (As CaCO3)	59	5		mg/L	07/23/2010 2349 LJK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	08/04/2010 1108 AS	EPA 350.1
Turbidity	4.8	0.1		NTU	07/23/2010 1245 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	68	5		mg/L	07/23/2010 2349 LJK	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	07/23/2010 2349 LJK	SM 2320B
Chloride	ND	1		mg/L	07/26/2010 1930 KO	EPA 300.0
Fluoride	0.1	0.1		mg/L	07/26/2010 1653 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	07/30/2010 1527 AS	EPA 353.2
Sulfate	5	1		mg/L	07/26/2010 1930 KO	EPA 300.0
Cations						
Calcium	11	1		mg/L	07/23/2010 1759 RS	EPA 200.7
Magnesium	3	1		mg/L	07/23/2010 1759 RS	EPA 200.7
Potassium	10	1		mg/L	07/23/2010 1759 RS	EPA 200.7
Sodium	8	1		mg/L	07/23/2010 1759 RS	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
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M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 9/1/2010
Report ID: S1007330001

Project: ROSS
Lab ID: S1007330-001
Client Sample ID: TW RES01
COC: 128480

Work Order: S1007330
Collection Date: 7/22/2010 9:00:00 AM
Date Received: 7/23/2010 8:50:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	1.10	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Chloride	ND	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Fluoride	ND	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Sulfate	0.09	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Calcium	0.52	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Magnesium	0.26	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Potassium	0.25	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Sodium	0.34	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	1.38	0		meq/L	07/27/2010 907 KO	SM 1030E
Anion Sum	1.28	0		meq/L	07/27/2010 907 KO	SM 1030E
Cation-Anion Balance	3.83	0		%	07/27/2010 907 KO	SM 1030E
Radio Chemistry						
Gross Alpha	3.55 ± 0.95	2		pCi/L	08/23/2010 1542 SH	SM 7110B
Gross Beta	9.26 ± 1.40	3		pCi/L	08/23/2010 1542 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	08/29/2010 1816 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	08/30/2010 2112 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	08/26/2010 2301 SH	Ra-05
Lead 210 (Dissolved)	ND	1		pCi/L	08/20/2010 2106 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	08/21/2010 1941 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	08/24/2010 1523 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	08/24/2010 1249 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2	L	pCi/L	08/13/2010 000 WN	ACW10
Thorium 230 (Suspended)	ND	0.2	L	pCi/L	08/13/2010 000 WN	ACW10
Uranium Suspended	ND	0.001		mg/L	08/02/2010 1821 MS	EPA 200.8

These results apply only to the samples tested.

Qualifiers:

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M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 9/1/2010
Report ID: S1007330001

Work Order: S1007330
Project: ROSS
Collection Date: 7/22/2010 9:00:00 AM
Lab ID: S1007330-001
Date Received: 7/23/2010 8:50:00 AM
Client Sample ID: TW RES01
Sampler: RF
COC: 128480
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	07/23/2010 1759 RS	EPA 200.7
Arsenic	0.006	0.005		mg/L	07/23/2010 1315 MS	EPA 200.8
Barium	ND	0.5		mg/L	07/23/2010 1315 MS	EPA 200.8
Boron	ND	0.1		mg/L	07/23/2010 1759 RS	EPA 200.7
Cadmium	ND	0.002		mg/L	07/23/2010 1315 MS	EPA 200.8
Chromium	ND	0.01		mg/L	07/23/2010 1759 RS	EPA 200.7
Copper	ND	0.01		mg/L	07/23/2010 1315 MS	EPA 200.8
Iron	0.35	0.05		mg/L	07/23/2010 1759 RS	EPA 200.7
Lead	ND	0.02		mg/L	07/23/2010 1315 MS	EPA 200.8
Mercury	ND	0.001		mg/L	07/27/2010 827 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	07/23/2010 1315 MS	EPA 200.8
Nickel	ND	0.01		mg/L	07/23/2010 1759 RS	EPA 200.7
Selenium	ND	0.005		mg/L	07/23/2010 1315 MS	EPA 200.8
Silver	ND	0.003		mg/L	07/23/2010 1315 MS	EPA 200.8
Uranium	ND	0.001		mg/L	07/23/2010 1315 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	07/23/2010 1315 MS	EPA 200.8
Zinc	ND	0.01		mg/L	07/23/2010 1759 RS	EPA 200.7
Total Metals						
Iron	0.64	0.05		mg/L	07/26/2010 2038 DG	EPA 200.7
Manganese	0.03	0.02		mg/L	07/26/2010 2038 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 9/1/2010
Report ID: S1007330001

Work Order: S1007330
Project: ROSS
Collection Date: 7/22/2010 10:30:00 AM
Lab ID: S1007330-002
Date Received: 7/23/2010 8:50:00 AM
Client Sample ID: TW RES02
Sampler: RF
COC: 128480
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	10.46			s.u.	07/22/2010 1030	Field
Conductivity	281			µm hos/cm	07/22/2010 1030	Field
Dissolved Oxygen	6.72			mg /L	07/22/2010 1030	Field
Dissolved Oxygen (pct)	77.6			%	07/22/2010 1030	Field
Turbidity	3.22		NT	U	07/22/2010 1030	Field
Temperature	21.8			°C	07/22/2010 1030	Field
General Parameters						
pH	9.8	0.1		s.u.	07/24/2010 001 LJK	SM 4500 H B
Electrical Conductivity	273	5		µmhos/cm	07/24/2010 001 LJK	SM 2510B
Total Dissolved Solids (180)	210	10		mg/L	07/23/2010 1015 MJH	SM 2540
Solids, Total Dissolved (Calc)	150	10		mg/L	07/27/2010 907 KO	SM 1030E
Total Suspended Solids	ND	5		mg/L	07/27/2010 1010 MJH	SM 2540
Alkalinity, Total (As CaCO3)	107	5		mg/L	07/24/2010 001 LJK	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	08/04/2010 1109 AS	EPA 350.1
Turbidity	2.2	0.1		NTU	07/23/2010 1247 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	51	5		mg/L	07/24/2010 001 LJK	SM 2320B
Alkalinity, Carbonate as CO3	39	5		mg/L	07/24/2010 001 LJK	SM 2320B
Chloride	2	1		mg/L	07/26/2010 2023 KO	EPA 300.0
Fluoride	ND	0.1		mg/L	07/26/2010 1657 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	07/30/2010 1528 AS	EPA 353.2
Sulfate	27	1		mg/L	07/26/2010 2023 KO	EPA 300.0
Cations						
Calcium	14	1		mg/L	07/23/2010 1802 RS	EPA 200.7
Magnesium	10	1		mg/L	07/23/2010 1802 RS	EPA 200.7
Potassium	5	1		mg/L	07/23/2010 1802 RS	EPA 200.7
Sodium	26	1		mg/L	07/23/2010 1802 RS	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 9/1/2010
Report ID: S1007330001

Project: ROSS
Lab ID: S1007330-002
Client Sample ID: TW RES02
COC: 128480

Work Order: S1007330
Collection Date: 7/22/2010 10:30:00 AM
Date Received: 7/23/2010 8:50:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	0.84	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Carbonate as CO3	1.30	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Chloride	0.04	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Fluoride	ND	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Sulfate	0.56	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Calcium	0.68	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Magnesium	0.84	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Potassium	0.11	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Sodium	1.14	0.01		meq/L	07/27/2010 907 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	2.79	0		meq/L	07/27/2010 907 KO	SM 1030E
Anion Sum	2.75	0		meq/L	07/27/2010 907 KO	SM 1030E
Cation-Anion Balance	0.72	0		%	07/27/2010 907 KO	SM 1030E
Radio Chemistry						
Gross Alpha	3.61 ± 0.81	2		pCi/L	08/22/2010 1038 SH	SM 7110B
Gross Beta	5.99 ± 1.10	3		pCi/L	08/22/2010 1038 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	08/29/2010 1816 SH	SM 7500-Ra B
Radium 226 (Suspended)	ND	0.2		pCi/L	08/30/2010 2112 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	08/26/2010 2301 SH	Ra-05
Lead 210 (Dissolved)	ND	1		pCi/L	08/20/2010 2106 SH	OTW01
Lead 210 (Suspended)	ND	1		pCi/L	08/21/2010 1941 SH	OTW01
Polonium 210 (Dissolved)	ND	1		pCi/L	08/24/2010 1523 SH	OTW01
Polonium 210 (Suspended)	ND	1		pCi/L	08/24/2010 1249 SH	OTW01
Thorium 230 (Dissolved)	ND	0.2	L	pCi/L	08/13/2010 000 WN	ACW10
Thorium 230 (Suspended)	ND	0.2	L	pCi/L	08/13/2010 000 WN	ACW10
Uranium Suspended	ND	0.001		mg/L	08/02/2010 1828 MS	EPA 200.8

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 9/1/2010
Report ID: S1007330001

Project: ROSS
Lab ID: S1007330-002
Client Sample ID: TW RES02
COC: 128480

Work Order: S1007330
Collection Date: 7/22/2010 10:30:00 AM
Date Received: 7/23/2010 8:50:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	07/23/2010 1802 RS	EPA 200.7
Arsenic	0.007	0.005		mg/L	07/23/2010 1319 MS	EPA 200.8
Barium	ND	0.5		mg/L	07/23/2010 1319 MS	EPA 200.8
Boron	ND	0.1		mg/L	07/23/2010 1802 RS	EPA 200.7
Cadmium	ND	0.002		mg/L	07/23/2010 1319 MS	EPA 200.8
Chromium	ND	0.01		mg/L	07/23/2010 1802 RS	EPA 200.7
Copper	ND	0.01		mg/L	07/23/2010 1319 MS	EPA 200.8
Iron	ND	0.05		mg/L	07/23/2010 1802 RS	EPA 200.7
Lead	ND	0.02		mg/L	07/23/2010 1319 MS	EPA 200.8
Mercury	ND	0.001		mg/L	07/27/2010 829 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	07/23/2010 1319 MS	EPA 200.8
Nickel	ND	0.01		mg/L	07/23/2010 1802 RS	EPA 200.7
Selenium	ND	0.005		mg/L	07/23/2010 1319 MS	EPA 200.8
Silver	ND	0.003		mg/L	07/23/2010 1319 MS	EPA 200.8
Uranium	0.003	0.001		mg/L	07/23/2010 1319 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	07/23/2010 1319 MS	EPA 200.8
Zinc	ND	0.01		mg/L	07/23/2010 1802 RS	EPA 200.7
Total Metals						
Iron	0.06	0.05		mg/L	07/26/2010 2040 DG	EPA 200.7
Manganese	0.03	0.02		mg/L	07/26/2010 2040 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: CSRES [redacted] 03/04 **Date:** 10-4-10 **Time:** 1450

Landowner
Name: Strong
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.00
Cond. 985 µS
Temp. °C 19.8
Turbidity (ntu) 101
D.O. (mg/L) 7.11 / 79.0

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: Res low - almost dry - water turbid - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: HB RES 04 Osholo Res. **Date:** 10-5-10 **Time:** 1430

Landowner
Name: Berger
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock

Domestic

SEO Permitted Facility Name:

Permit No. P6046R

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.29
Cond. 1106 µS
Temp. °C 16.6
Turbidity (ntu) 26.0
D.O. (mg/L) 6.67 / 68.8

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: Water turbid - color is light yellow/brown - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: P155075 Deadman #1 **Date:** 10-5-10 **Time:** 1600

Landowner
Name: Swanda
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name: Deadman #1 **Permit No.** P155075

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 10.20
Cond. 3.64 mS
Temp. °C 20.6
Turbidity (ntu) 328
D.O. (mg/L) 10.14/114

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: Water turbid - color is light yellow/brown - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: P155085 Deadman #2 **Date:** 10-5-10 **Time:** 1510

Landowner
Name: Swanda
Address
Phone#

Legal Location
Qtr/Qtr NW SW
SEC 18
TWN 53
RNG 67

Picture #(s) 2

Stock ✓

Domestic

SEO Permitted Facility Name: Deadman #2 **Permit No.** P155085

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.68
Cond. 2.70 mS
Temp. °C 18.4
Turbidity (ntu) 86.9
D.O. (mg/L) 9.87 / 105.90

Water Level (ft):
% Combustible Gas:
Casing Height (ft):
Ambient Air Temp:

Comments: Water turbid - color is light yellow/brown - no odor.

* First sample for this res.

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: P175925 **Date:** 10-5-10 **Time:** 1330
Butte #1 Stock-RES

Landowner
Name: SWanda
Address
Phone#

Legal Location
Qtr/Qtr SWSW
SEC 18
TWN 53
RNG 67

Picture #(s) 1

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. P175925

Location (Decimal Degrees)
Lat 44.57291
Long 104.96346
Elev. 4208

Water Quality
pH 9.29
Cond. 2.89 mS
Temp. ° C 19.2
Turbidity (ntu) 23.4
D.O. (mg/L) 4.88/52.8

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: First sample for this res. - Water turbid - colored light yellow/brown - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TWRES01 **Date:** 10-5-10 **Time:** 1015

Landowner
Name: WESLEY
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. ——

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 9.47
Cond. 247 µS
Temp. °C 15.0
Turbidity (ntu) 64.4
D.O. (mg/L) 5.87 / 59.1

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: Water turbid - light yellow/brown - no odor

WWC ENGINEERING
LANDOWNER WATER SAMPLING FORM
For STRATA ENERGY

Name: TWRES02 **Date:** 10-5-10 **Time:** 1145

Landowner
Name:
Address
Phone#

Legal Location
Qtr/Qtr
SEC
TWN
RNG

Picture #(s)

Stock ✓

Domestic

SEO Permitted Facility Name:

Permit No. —

Location (Decimal Degrees)
Lat
Long
Elev.

Water Quality
pH 10.32
Cond. 1801 µS
Temp. °C 18.4
Turbidity (ntu) 26.5
D.O. (mg/L) 10.73 / 116.8

Water Level (ft):

% Combustible Gas:

Casing Height (ft):

Ambient Air Temp:

Comments: water slightly turbid - color is light yellow/brown - no odor

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010074001

Project: ROSS
Lab ID: S1010074-005
Client Sample ID: CS RES 03
COC: 131169

Work Order: S1010074
Collection Date: 10/4/2010 2:50:00 PM
Date Received: 10/5/2010 4:25:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.00		s.u.		10/04/2010 1450	Field
Conductivity	985		µm	hos/cm	10/04/2010 1450	Field
Dissolved Oxygen	7.11		mg	/L	10/04/2010 1450	Field
Dissolved Oxygen (pct)	79.0			%	10/04/2010 1450	Field
Turbidity	101		NT	U	10/04/2010 1450	Field
Temperature	19.8		°C		10/04/2010 1450	Field
General Parameters						
pH	8.5	0.1		s.u.	10/06/2010 2157 KO	SM 4500 H B
Electrical Conductivity	1000	5		µmhos/cm	10/06/2010 2157 KO	SM 2510B
Total Dissolved Solids (180)	760	10		mg/L	10/07/2010 1320 JF	SM 2540
Solids, Total Dissolved (Calc)	610	10		mg/L	10/14/2010 1334 KO	SM 1030E
Total Suspended Solids	134	5		mg/L	10/06/2010 1700 JF	SM 2540
Alkalinity, Total (As CaCO3)	346	5		mg/L	10/06/2010 2157 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.6	0.1		mg/L	10/11/2010 1521 AS	EPA 350.1
Turbidity	101	0.1		NTU	10/06/2010 1408 AS	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	398	5		mg/L	10/06/2010 2157 KO	SM 2320B
Alkalinity, Carbonate as CO3	12	5		mg/L	10/06/2010 2157 KO	SM 2320B
Chloride	9	1		mg/L	10/06/2010 1912 KO	EPA 300.0
Fluoride	0.1	0.1		mg/L	10/07/2010 1851 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/15/2010 1516 AS	EPA 353.2
Sulfate	169	1		mg/L	10/06/2010 1912 KO	EPA 300.0
Cations						
Calcium	54	1		mg/L	10/06/2010 1520 DG	EPA 200.7
Magnesium	26	1		mg/L	10/06/2010 1520 DG	EPA 200.7
Potassium	29	1		mg/L	10/06/2010 1520 DG	EPA 200.7
Sodium	119	1		mg/L	10/06/2010 1520 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010074001

Project: ROSS
Lab ID: S1010074-005
Client Sample ID: CS RES 03
COC: 131169

Work Order: S1010074
Collection Date: 10/4/2010 2:50:00 PM
Date Received: 10/5/2010 4:25:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	6.53	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Carbonate as CO3	0.39	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Chloride	0.25	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Fluoride	ND	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Sulfate	3.52	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Calcium	2.69	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Magnesium	2.10	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Potassium	0.74	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Sodium	5.17	0.01		meq/L	10/14/2010 1334 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	10.72	0		meq/L	10/14/2010 1334 KO	SM 1030E
Anion Sum	10.72	0		meq/L	10/14/2010 1334 KO	SM 1030E
Cation-Anion Balance	0.01	0		%	10/14/2010 1334 KO	SM 1030E
Radio Chemistry						
Gross Alpha	11.1 ± 2.9	2		pCi/L	10/20/2010 2011 SH	SM 7110B
Gross Beta	27.6 ± 4.0	3		pCi/L	10/20/2010 2011 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/15/2010 1356 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/18/2010 2347 SH	Ra-05

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010074001

Project: ROSS
Lab ID: S1010074-005
Client Sample ID: CS RES 03
COC: 131169

Work Order: S1010074
Collection Date: 10/4/2010 2:50:00 PM
Date Received: 10/5/2010 4:25:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/06/2010 1520 DG	EPA 200.7
Arsenic	0.022	0.005		mg/L	10/06/2010 1251 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/06/2010 1251 MS	EPA 200.8
Boron	ND	0.1		mg/L	10/06/2010 1520 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/06/2010 1251 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/06/2010 1520 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/06/2010 1251 MS	EPA 200.8
Iron	ND	0.05		mg/L	10/06/2010 1520 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/06/2010 1251 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/07/2010 938 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/06/2010 1251 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/06/2010 1520 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/06/2010 1251 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/06/2010 1251 MS	EPA 200.8
Uranium	0.005	0.001		mg/L	10/06/2010 1251 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/06/2010 1251 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/06/2010 1520 DG	EPA 200.7
Total Metals						
Iron	1.32	0.05		mg/L	10/08/2010 1412 DG	EPA 200.7
Manganese	1.12	0.02		mg/L	10/08/2010 1412 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-002
Client Sample ID: HBRES04
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 2:30:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.29			s.u.	10/05/2010 1430	Field
Conductivity	1106			µm hos/cm	10/05/2010 1430	Field
Dissolved Oxygen	6.67			mg /L	10/05/2010 1430	Field
Dissolved Oxygen (pct)	68.8			%	10/05/2010 1430	Field
Turbidity	26.0			NT U	10/05/2010 1430	Field
Temperature	16.6			°C	10/05/2010 1430	Field
General Parameters						
pH	8.9	0.1		s.u.	10/08/2010 1920 KO	SM 4500 H B
Electrical Conductivity	1090	5		µmhos/cm	10/08/2010 1920 KO	SM 2510B
Total Dissolved Solids (180)	730	10		mg/L	10/08/2010 1625 JF	SM 2540
Solids, Total Dissolved (Calc)	690	10		mg/L	10/14/2010 739 KO	SM 1030E
Total Suspended Solids	24	5		mg/L	10/08/2010 840 JF	SM 2540
Alkalinity, Total (As CaCO3)	507	5		mg/L	10/08/2010 1920 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/11/2010 1544 AS	EPA 350.1
Turbidity	19.1	0.1		NTU	10/07/2010 1329 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	520	5		mg/L	10/08/2010 1920 KO	SM 2320B
Alkalinity, Carbonate as CO3	49	5		mg/L	10/08/2010 1920 KO	SM 2320B
Chloride	8	1		mg/L	10/08/2010 1340 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	10/08/2010 1920 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/12/2010 1715 AS	EPA 353.2
Sulfate	96	1		mg/L	10/08/2010 1340 KO	EPA 300.0
Cations						
Calcium	16	1		mg/L	10/08/2010 1141 DG	EPA 200.7
Magnesium	24	1		mg/L	10/08/2010 1141 DG	EPA 200.7
Potassium	14	1		mg/L	10/08/2010 1141 DG	EPA 200.7
Sodium	226	1		mg/L	10/08/2010 1141 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Work Order: S1010106
Project: ROSS
Collection Date: 10/5/2010 2:30:00 PM
Lab ID: S1010106-002
Date Received: 10/6/2010 10:57:00 AM
Client Sample ID: HBRES04 (Oshoto Reservoir)
Sampler: RF
COC: 131171
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	8.52	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Carbonate as CO3	1.62	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Chloride	0.22	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sulfate	2.00	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Calcium	0.79	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Magnesium	1.99	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Potassium	0.35	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sodium	9.82	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	12.96	0		meq/L	10/14/2010 739 KO	SM 1030E
Anion Sum	12.39	0		meq/L	10/14/2010 739 KO	SM 1030E
Cation-Anion Balance	2.24	0		%	10/14/2010 739 KO	SM 1030E
Radio Chemistry						
Gross Alpha	9.5 ± 1.8	2		pCi/L	10/24/2010 1109 SH	SM 7110B
Gross Beta	13.0 ± 2.0	3		pCi/L	10/24/2010 1109 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/20/2010 847 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/23/2010 910 TWP	Ga-Tech

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Work Order: S1010106
Project: ROSS
Collection Date: 10/5/2010 2:30:00 PM
Lab ID: S1010106-002
Date Received: 10/6/2010 10:57:00 AM
Client Sample ID: HBRES04 (Oshoto Reservoir)
Sampler: RF
COC: 131171
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/08/2010 1141 DG	EPA 200.7
Arsenic	0.007	0.005		mg/L	10/07/2010 1340 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/07/2010 1340 MS	EPA 200.8
Boron	0.1	0.1		mg/L	10/08/2010 1141 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/07/2010 1340 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/08/2010 1141 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/07/2010 1340 MS	EPA 200.8
Iron	ND	0.05		mg/L	10/08/2010 1141 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/07/2010 1340 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/12/2010 928 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/07/2010 1340 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/08/2010 1141 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/07/2010 1340 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/07/2010 1340 MS	EPA 200.8
Uranium	0.008	0.001		mg/L	10/07/2010 1340 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/07/2010 1340 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/08/2010 1141 DG	EPA 200.7
Total Metals						
Iron	0.13	0.05		mg/L	10/10/2010 1038 DG	EPA 200.7
Manganese	0.07	0.02		mg/L	10/10/2010 1038 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-004
Client Sample ID: P15507S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 4:00:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	10.20			s.u.	10/05/2010 1600	Field
Conductivity	3640			µm hos/cm	10/05/2010 1600	Field
Dissolved Oxygen	10.14			mg /L	10/05/2010 1600	Field
Dissolved Oxygen (pct)	114			%	10/05/2010 1600	Field
Turbidity	328			NT U	10/05/2010 1600	Field
Temperature	20.6			°C	10/05/2010 1600	Field
General Parameters						
pH	9.9	0.1		s.u.	10/08/2010 1948 KO	SM 4500 H B
Electrical Conductivity	2910	5		µmhos/cm	10/08/2010 1948 KO	SM 2510B
Total Dissolved Solids (180)	2320	10		mg/L	10/08/2010 1635 JF	SM 2540
Solids, Total Dissolved (Calc)	1950	10		mg/L	10/14/2010 739 KO	SM 1030E
Total Suspended Solids	240	5		mg/L	10/08/2010 850 JF	SM 2540
Alkalinity, Total (As CaCO3)	1700	5		mg/L	10/08/2010 1948 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.1	0.1		mg/L	10/11/2010 1552 AS	EPA 350.1
Turbidity	229	0.1		NTU	10/07/2010 1333 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	965	5		mg/L	10/08/2010 1948 KO	SM 2320B
Alkalinity, Carbonate as CO3	548	5		mg/L	10/08/2010 1948 KO	SM 2320B
Chloride	21	1		mg/L	10/08/2010 1444 KO	EPA 300.0
Fluoride	0.7	0.1		mg/L	10/08/2010 1948 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/12/2010 1717 AS	EPA 353.2
Sulfate	84	1		mg/L	10/08/2010 1444 KO	EPA 300.0
Cations						
Calcium	10	1		mg/L	10/08/2010 1150 DG	EPA 200.7
Magnesium	43	1		mg/L	10/08/2010 1150 DG	EPA 200.7
Potassium	27	1		mg/L	10/08/2010 1150 DG	EPA 200.7
Sodium	739	1		mg/L	10/08/2010 1150 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-004
Client Sample ID: P15507S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 4:00:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	15.81	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Carbonate as CO3	18.27	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Chloride	0.60	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Fluoride	0.03	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sulfate	1.74	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Calcium	0.51	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Magnesium	3.52	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Potassium	0.70	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sodium	32.14	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	36.87	0		meq/L	10/14/2010 739 KO	SM 1030E
Anion Sum	36.47	0		meq/L	10/14/2010 739 KO	SM 1030E
Cation-Anion Balance	0.55	0		%	10/14/2010 739 KO	SM 1030E
Radio Chemistry						
Gross Alpha	48.7 ± 6.0	2		pCi/L	10/24/2010 1109 SH	SM 7110B
Gross Beta	48.5 ± 5.7	3		pCi/L	10/24/2010 1109 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/20/2010 847 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/23/2010 1500 TWP	Ga-Tech

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-004
Client Sample ID: P15507S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 4:00:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/08/2010 1150 DG	EPA 200.7
Arsenic	0.052	0.005		mg/L	10/07/2010 1354 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/07/2010 1354 MS	EPA 200.8
Boron	0.4	0.1		mg/L	10/08/2010 1150 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/07/2010 1354 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/08/2010 1150 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/07/2010 1354 MS	EPA 200.8
Iron	0.06	0.05		mg/L	10/08/2010 1150 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/07/2010 1354 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/12/2010 939 BK	EPA 245.1
Molybdenum	0.06	0.02		mg/L	10/07/2010 1354 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/08/2010 1150 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/07/2010 1354 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/07/2010 1354 MS	EPA 200.8
Uranium	0.087	0.001		mg/L	10/07/2010 1354 MS	EPA 200.8
Vanadium	0.03	0.02		mg/L	10/07/2010 1354 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/08/2010 1150 DG	EPA 200.7
Total Metals						
Iron	1.06	0.05		mg/L	10/10/2010 1043 DG	EPA 200.7
Manganese	0.12	0.02		mg/L	10/10/2010 1043 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-003
Client Sample ID: P15508S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 3:10:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.68	s.u.			10/05/2010 1510	Field
Conductivity	2700	µm		hos/cm	10/05/2010 1510	Field
Dissolved Oxygen	9.87	mg		/L	10/05/2010 1510	Field
Dissolved Oxygen (pct)	105.90			%	10/05/2010 1510	Field
Turbidity	86.9	NT		U	10/05/2010 1510	Field
Temperature	18.4	°C			10/05/2010 1510	Field
General Parameters						
pH	9.4	0.1		s.u.	10/08/2010 1933 KO	SM 4500 H B
Electrical Conductivity	2130	5		µmhos/cm	10/08/2010 1933 KO	SM 2510B
Total Dissolved Solids (180)	1560	10		mg/L	10/08/2010 1630 JF	SM 2540
Solids, Total Dissolved (Calc)	1390	10		mg/L	10/14/2010 739 KO	SM 1030E
Total Suspended Solids	86	5		mg/L	10/08/2010 845 JF	SM 2540
Alkalinity, Total (As CaCO3)	1220	5		mg/L	10/08/2010 1933 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/11/2010 1545 AS	EPA 350.1
Turbidity	69.4	0.1		NTU	10/07/2010 1331 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	1030	5		mg/L	10/08/2010 1933 KO	SM 2320B
Alkalinity, Carbonate as CO3	226	5		mg/L	10/08/2010 1933 KO	SM 2320B
Chloride	8	1		mg/L	10/08/2010 1349 KO	EPA 300.0
Fluoride	0.5	0.1		mg/L	10/08/2010 1933 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/12/2010 1716 AS	EPA 353.2
Sulfate	90	1		mg/L	10/08/2010 1349 KO	EPA 300.0
Cations						
Calcium	13	1		mg/L	10/08/2010 1148 DG	EPA 200.7
Magnesium	36	1		mg/L	10/08/2010 1148 DG	EPA 200.7
Potassium	16	1		mg/L	10/08/2010 1148 DG	EPA 200.7
Sodium	494	1		mg/L	10/08/2010 1148 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-003
Client Sample ID: P15508S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 3:10:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	16.90	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Carbonate as CO3	7.54	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Chloride	0.21	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Fluoride	0.02	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sulfate	1.88	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Calcium	0.65	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Magnesium	2.99	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Potassium	0.39	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sodium	21.50	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	25.55	0		meq/L	10/14/2010 739 KO	SM 1030E
Anion Sum	26.58	0		meq/L	10/14/2010 739 KO	SM 1030E
Cation-Anion Balance	1.97	0		%	10/14/2010 739 KO	SM 1030E
Radio Chemistry						
Gross Alpha	15.0 ± 3.5	2		pCi/L	10/24/2010 1109 SH	SM 7110B
Gross Beta	20.0 ± 3.9	3		pCi/L	10/24/2010 1109 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/20/2010 847 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/23/2010 1202 TWP	Ga-Tech

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-003
Client Sample ID: P15508S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 3:10:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/08/2010 1148 DG	EPA 200.7
Arsenic	0.015	0.005		mg/L	10/07/2010 1350 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/07/2010 1350 MS	EPA 200.8
Boron	0.2	0.1		mg/L	10/08/2010 1148 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/07/2010 1350 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/08/2010 1148 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/07/2010 1350 MS	EPA 200.8
Iron	0.08	0.05		mg/L	10/08/2010 1148 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/07/2010 1350 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/12/2010 937 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/07/2010 1350 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/08/2010 1148 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/07/2010 1350 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/07/2010 1350 MS	EPA 200.8
Uranium	0.027	0.001		mg/L	10/07/2010 1350 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/07/2010 1350 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/08/2010 1148 DG	EPA 200.7
Total Metals						
Iron	1.30	0.05		mg/L	10/10/2010 1041 DG	EPA 200.7
Manganese	0.09	0.02		mg/L	10/10/2010 1041 DG	EPA 200.7

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-001
Client Sample ID: P17592S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 1:30:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.29			s.u.	10/05/2010 1330	Field
Conductivity	2890			µm hos/cm	10/05/2010 1330	Field
Dissolved Oxygen	4.88			mg /L	10/05/2010 1330	Field
Dissolved Oxygen (pct)	52.8			%	10/05/2010 1330	Field
Turbidity	23.4			NT U	10/05/2010 1330	Field
Temperature	19.2			°C	10/05/2010 1330	Field
General Parameters						
pH	9.0	0.1		s.u.	10/08/2010 1909 KO	SM 4500 H B
Electrical Conductivity	2270	5		µmhos/cm	10/08/2010 1909 KO	SM 2510B
Total Dissolved Solids (180)	1710	10		mg/L	10/08/2010 1620 JF	SM 2540
Solids, Total Dissolved (Calc)	1480	10		mg/L	10/14/2010 739 KO	SM 1030E
Total Suspended Solids	8	5		mg/L	10/08/2010 835 JF	SM 540
Alkalinity, Total (As CaCO3)	1090	5		mg/L	10/08/2010 1909 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.1	0.1		mg/L	10/11/2010 1543 AS	EPA 350.1
Turbidity	18.7	0.1		NTU	10/07/2010 1327 KB	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	1080	5		mg/L	10/08/2010 1909 KO	SM 2320B
Alkalinity, Carbonate as CO3	123	5		mg/L	10/08/2010 1909 KO	SM 2320B
Chloride	20	1		mg/L	10/08/2010 1331 KO	EPA 300.0
Fluoride	0.5	0.1		mg/L	10/08/2010 1909 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/12/2010 1714 AS	EPA 353.2
Sulfate	224	1		mg/L	10/08/2010 1331 KO	EPA 300.0
Cations						
Calcium	18	1		mg/L	10/08/2010 1139 DG	EPA 200.7
Magnesium	33	1		mg/L	10/08/2010 1139 DG	EPA 200.7
Potassium	18	1		mg/L	10/08/2010 1139 DG	EPA 200.7
Sodium	515	1		mg/L	10/08/2010 1139 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-001
Client Sample ID: P17592S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 1:30:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	17.66	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Carbonate as CO3	4.10	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Chloride	0.55	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Fluoride	0.02	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sulfate	4.66	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Calcium	0.88	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Magnesium	2.70	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Potassium	0.46	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Sodium	22.39	0.01		meq/L	10/14/2010 739 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	26.44	0		meq/L	10/14/2010 739 KO	SM 1030E
Anion Sum	27.01	0		meq/L	10/14/2010 739 KO	SM 1030E
Cation-Anion Balance	1.07	0		%	10/14/2010 739 KO	SM 1030E
Radio Chemistry						
Gross Alpha	16.3 ± 3.5	2		pCi/L	10/24/2010 1109 SH	SM 7110B
Gross Beta	20.0 ± 3.9	3		pCi/L	10/24/2010 1109 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/20/2010 847 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/23/2010 552 TWP	Ga-Tech

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra
Sheridan, WY 82801

Date Reported: 10/27/2010
Report ID: S1010106001

Project: ROSS
Lab ID: S1010106-001
Client Sample ID: P17592S
COC: 131171

Work Order: S1010106
Collection Date: 10/5/2010 1:30:00 PM
Date Received: 10/6/2010 10:57:00 AM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/08/2010 1139 DG	EPA 200.7
Arsenic	0.013	0.005		mg/L	10/07/2010 1336 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/07/2010 1336 MS	EPA 200.8
Boron	0.2	0.1		mg/L	10/08/2010 1139 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/07/2010 1336 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/08/2010 1139 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/07/2010 1336 MS	EPA 200.8
Iron	0.18	0.05		mg/L	10/08/2010 1139 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/07/2010 1336 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/12/2010 927 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/07/2010 1336 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/08/2010 1139 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/07/2010 1336 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/07/2010 1336 MS	EPA 200.8
Uranium	0.020	0.001		mg/L	10/07/2010 1336 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/07/2010 1336 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/08/2010 1139 DG	EPA 200.7
Total Metals						
Iron	0.77	0.05		mg/L	10/10/2010 1036 DG	EPA 200.7
Manganese	0.08	0.02		mg/L	10/10/2010 1036 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010075001

Project: ROSS
Lab ID: S1010075-004
Client Sample ID: TWRES01
COC: 131170

Work Order: S1010075
Collection Date: 10/5/2010 10:15:00 AM
Date Received: 10/5/2010 4:26:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	9.47			s.u.	10/05/2010 1015	Field
Conductivity	247			µm hos/cm	10/05/2010 1015	Field
Dissolved Oxygen	5.87			mg /L	10/05/2010 1015	Field
Dissolved Oxygen (pct)	59.1			%	10/05/2010 1015	Field
Turbidity	64.4			NT U	10/05/2010 1015	Field
Temperature	15.0			°C	10/05/2010 1015	Field
General Parameters						
pH	8.5	0.1		s.u.	10/06/2010 2303 KO	SM 4500 H B
Electrical Conductivity	231	5		µmhos/cm	10/06/2010 2303 KO	SM 2510B
Total Dissolved Solids (180)	170	10		mg/L	10/07/2010 1350 JF	SM 2540
Solids, Total Dissolved (Calc)	130	10		mg/L	10/15/2010 1447 KO	SM 1030E
Total Suspended Solids	44	5		mg/L	10/06/2010 1705 JF	SM 2540
Alkalinity, Total (As CaCO3)	116	5		mg/L	10/06/2010 2303 KO	SM 2320B
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	10/11/2010 1527 AS	EPA 350.1
Turbidity	62.0	0.1		NTU	10/06/2010 1410 AS	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	137	5		mg/L	10/06/2010 2303 KO	SM 2320B
Alkalinity, Carbonate as CO3	ND	5		mg/L	10/06/2010 2303 KO	SM 2320B
Chloride	2	1		mg/L	10/06/2010 2057 KO	EPA 300.0
Fluoride	0.2	0.1		mg/L	10/07/2010 1911 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/12/2010 1658 AS	EPA 353.2
Sulfate	4	1		mg/L	10/06/2010 2057 KO	EPA 300.0
Cations						
Calcium	21	1		mg/L	10/11/2010 1336 DG	EPA 200.7
Magnesium	5	1		mg/L	10/06/2010 1540 DG	EPA 200.7
Potassium	14	1		mg/L	10/06/2010 1540 DG	EPA 200.7
Sodium	15	1		mg/L	10/06/2010 1540 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010075001

Project: ROSS
Lab ID: S1010075-004
Client Sample ID: TWRES01
COC: 131170

Work Order: S1010075
Collection Date: 10/5/2010 10:15:00 AM
Date Received: 10/5/2010 4:26:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	2.24	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Chloride	0.04	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Fluoride	0.01	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Sulfate	0.07	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Calcium	1.07	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Magnesium	0.40	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Potassium	0.35	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Sodium	0.65	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	2.48	0		meq/L	10/15/2010 1447 KO	SM 1030E
Anion Sum	2.45	0		meq/L	10/15/2010 1447 KO	SM 1030E
Cation-Anion Balance	0.45	0		%	10/15/2010 1447 KO	SM 1030E
Radio Chemistry						
Gross Alpha	2.5 ± 0.7	2		pCi/L	10/22/2010 2301 SH	SM 7110B
Gross Beta	14.3 ± 1.3	3		pCi/L	10/22/2010 2301 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/16/2010 1528 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/22/2010 2042 SH	Ra-05

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010075001

Project: ROSS
Lab ID: S1010075-004
Client Sample ID: TWRES01
COC: 131170

Work Order: S1010075
Collection Date: 10/5/2010 10:15:00 AM
Date Received: 10/5/2010 4:26:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	ND	0.1		mg/L	10/06/2010 1540 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	10/06/2010 1327 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/06/2010 1327 MS	EPA 200.8
Boron	ND	0.1		mg/L	10/06/2010 1540 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/06/2010 1327 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/06/2010 1540 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/06/2010 1327 MS	EPA 200.8
Iron	ND	0.05		mg/L	10/06/2010 1540 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/06/2010 1327 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/12/2010 852 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/06/2010 1327 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/06/2010 1540 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/06/2010 1327 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/06/2010 1327 MS	EPA 200.8
Uranium	0.001	0.001		mg/L	10/06/2010 1327 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/06/2010 1327 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/06/2010 1540 DG	EPA 200.7
Total Metals						
Iron	1.35	0.05		mg/L	10/08/2010 1437 DG	EPA 200.7
Manganese	0.07	0.02		mg/L	10/08/2010 1437 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010075001

Project: ROSS
Lab ID: S1010075-007
Client Sample ID: TW RES02
COC: 131170

Work Order: S1010075
Collection Date: 10/5/2010 11:45:00 AM
Date Received: 10/5/2010 4:26:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Field						
pH	10.32		s.u.		10/05/2010 1145	Field
Conductivity	1801		µm	hos/cm	10/05/2010 1145	Field
Dissolved Oxygen	10.73		mg	/L	10/05/2010 1145	Field
Dissolved Oxygen (pct)	116.8			%	10/05/2010 1145	Field
Turbidity	26.5		NT	U	10/05/2010 1145	Field
Temperature	18.9		°C		10/05/2010 1145	Field
General Parameters						
pH	10.0	0.1		s.u.	10/07/2010 003 KO	SM 4500 H B
Electrical Conductivity	1870	5		µmhos/cm	10/07/2010 003 KO	SM 2510B
Total Dissolved Solids (180)	1190	10		mg/L	10/07/2010 1410 JF	SM 2540
Solids, Total Dissolved (Calc)	680	10		mg/L	10/15/2010 1447 KO	SM 1030E
Total Suspended Solids	ND	5		mg/L	10/06/2010 1710 JF	SM 2540
Alkalinity, Total (As CaCO3)	732	5		mg/L	10/07/2010 003 KO	SM 2320B
Nitrogen, Ammonia (As N)	0.1	0.1		mg/L	10/11/2010 1536 AS	EPA 350.1
Turbidity	24.8	0.1		NTU	10/06/2010 1412 AS	SM 2130
Anions						
Alkalinity, Bicarbonate as HCO3	363	5		mg/L	10/07/2010 003 KO	SM 2320B
Alkalinity, Carbonate as CO3	261	5		mg/L	10/07/2010 003 KO	SM 2320B
Chloride	3	1		mg/L	10/06/2010 2126 KO	EPA 300.0
Fluoride	1.7	0.1		mg/L	10/08/2010 1427 KO	SM 4500FC
Nitrogen, Nitrate-Nitrite (as N)	ND	0.1		mg/L	10/12/2010 1701 AS	EPA 353.2
Sulfate	235	1		mg/L	10/06/2010 2126 KO	EPA 300.0
Cations						
Calcium	5	1		mg/L	10/06/2010 1547 DG	EPA 200.7
Magnesium	5	1		mg/L	10/06/2010 1547 DG	EPA 200.7
Potassium	5	1		mg/L	10/06/2010 1547 DG	EPA 200.7
Sodium	427	1		mg/L	10/06/2010 1547 DG	EPA 200.7

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010075001

Project: ROSS
Lab ID: S1010075-007
Client Sample ID: TW RES02
COC: 131170

Work Order: S1010075
Collection Date: 10/5/2010 11:45:00 AM
Date Received: 10/5/2010 4:26:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Cation/Anion-Milliequivalents						
Bicarbonate as HCO3	ND	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Carbonate as CO3	ND	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Chloride	0.07	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Fluoride	0.08	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Nitrate + Nitrite as N	ND	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Sulfate	4.88	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Calcium	0.25	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Magnesium	0.42	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Potassium	0.11	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Sodium	18.58	0.01		meq/L	10/15/2010 1447 KO	SM 1030E
Cation / Anion Balance						
Cation Sum	19.37	0		meq/L	10/15/2010 1447 KO	SM 1030E
Anion Sum	19.69	0		meq/L	10/15/2010 1447 KO	SM 1030E
Cation-Anion Balance	0.80	0		%	10/15/2010 1447 KO	SM 1030E
Radio Chemistry						
Gross Alpha	4.8 ± 2.4	2		pCi/L	10/24/2010 1109 SH	SM 7110B
Gross Beta	3.9 ± 3.5	3		pCi/L	10/24/2010 1109 SH	SM 7110B
Radium 226 (Dissolved)	ND	0.2		pCi/L	10/16/2010 1528 SH	SM 7500-Ra B
Radium 228 (Dissolved)	ND	1		pCi/L	10/22/2010 2042 SH	Ra-05

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by:
Wade Nieuwsma, Assistant Laboratory Manager

Inter-Mountain Laboratories, Inc
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Sample Analysis Report

CLIENT: Western Water Consultants
1849 Terra Avenue
Sheridan, WY 82801

Date Reported: 10/26/2010
Report ID: S1010075001

Project: ROSS
Lab ID: S1010075-007
Client Sample ID: TW RES02
COC: 131170

Work Order: S1010075
Collection Date: 10/5/2010 11:45:00 AM
Date Received: 10/5/2010 4:26:00 PM
Sampler: RF
Matrix: Water

Analyses	Result	RL	Qual	Units	Date Analyzed/Init	Method
Dissolved Metals						
Aluminum	1.5	0.1		mg/L	10/06/2010 1547 DG	EPA 200.7
Arsenic	ND	0.005		mg/L	10/06/2010 1338 MS	EPA 200.8
Barium	ND	0.5		mg/L	10/06/2010 1338 MS	EPA 200.8
Boron	0.6	0.1		mg/L	10/06/2010 1547 DG	EPA 200.7
Cadmium	ND	0.002		mg/L	10/06/2010 1338 MS	EPA 200.8
Chromium	ND	0.01		mg/L	10/06/2010 1547 DG	EPA 200.7
Copper	ND	0.01		mg/L	10/06/2010 1338 MS	EPA 200.8
Iron	0.80	0.05		mg/L	10/06/2010 1547 DG	EPA 200.7
Lead	ND	0.02		mg/L	10/06/2010 1338 MS	EPA 200.8
Mercury	ND	0.001		mg/L	10/12/2010 858 BK	EPA 245.1
Molybdenum	ND	0.02		mg/L	10/06/2010 1338 MS	EPA 200.8
Nickel	ND	0.01		mg/L	10/06/2010 1547 DG	EPA 200.7
Selenium	ND	0.005		mg/L	10/06/2010 1338 MS	EPA 200.8
Silver	ND	0.003		mg/L	10/06/2010 1338 MS	EPA 200.8
Uranium	0.002	0.001		mg/L	10/06/2010 1338 MS	EPA 200.8
Vanadium	ND	0.02		mg/L	10/06/2010 1338 MS	EPA 200.8
Zinc	ND	0.01		mg/L	10/06/2010 1547 DG	EPA 200.7
Total Metals						
Iron	1.29	0.05		mg/L	10/08/2010 1444 DG	EPA 200.7
Manganese	0.03	0.02		mg/L	10/08/2010 1444 DG	EPA 200.7

These results apply only to the samples tested.

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL
O	Outside the Range of Dilutions

RL - Reporting Limit

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
L	Analyzed by a contract laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Reviewed by: _____
Wade Nieuwsma, Assistant Laboratory Manager

ADDENDUM 2.7-F

AQUIFER TEST REPORT

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LIST OF APPENDICES

Ross Project 2010 Pumping Tests Results and Analysis

1.0 INTRODUCTION

This report presents the results of the 2010 aquifer testing program conducted at the Strata Energy (Strata) Ross ISR Project. Seven separate pumping tests, ranging from 24 to 72 hours in pumping time, were conducted at six well clusters located within the proposed Ross Project area. Well cluster locations are depicted on Figure 1. Five of the six well clusters consist of four wells, each of which is completed in one of four discrete intervals, being: 1) the ore zone (OZ - the mining target), 2) the deep monitoring interval (DM - the first discrete aquifer beneath the ore zone), 3) the shallow monitoring interval (SM - the first discrete aquifer above the ore zone), or 4) the surficial aquifer (SA - the shallow water table aquifer). The sixth well cluster consists of seven wells, four of which are completed in one of these four intervals with three additional wells completed in the ore zone.

1.1 Purpose and Scope

This report is a component of a comprehensive license/permit application for the Ross ISR Project and designed to describe the methods and techniques used to measure the hydraulic characteristics (e.g., hydraulic conductivity (K), transmissivity (T), and storativity (S)) of the ore zone along with a tabulation of the test results. In addition, confinement and hydraulic isolation of the ore zone from the overlying and underlying aquifers is demonstrated, along with assessing the vertical and horizontal anisotropy within the ore zone unit.

1.2 Report Organization

To facilitate review, this report is designed as a stand-alone document. Monitoring well completion information is summarized in Table 1. Table 2 is a drawdown response summary and Table 3 presents the aquifer hydraulics summary. Field data forms and plots of the time-drawdown data and analytical results for each test are contained in Appendices 1 through 7.

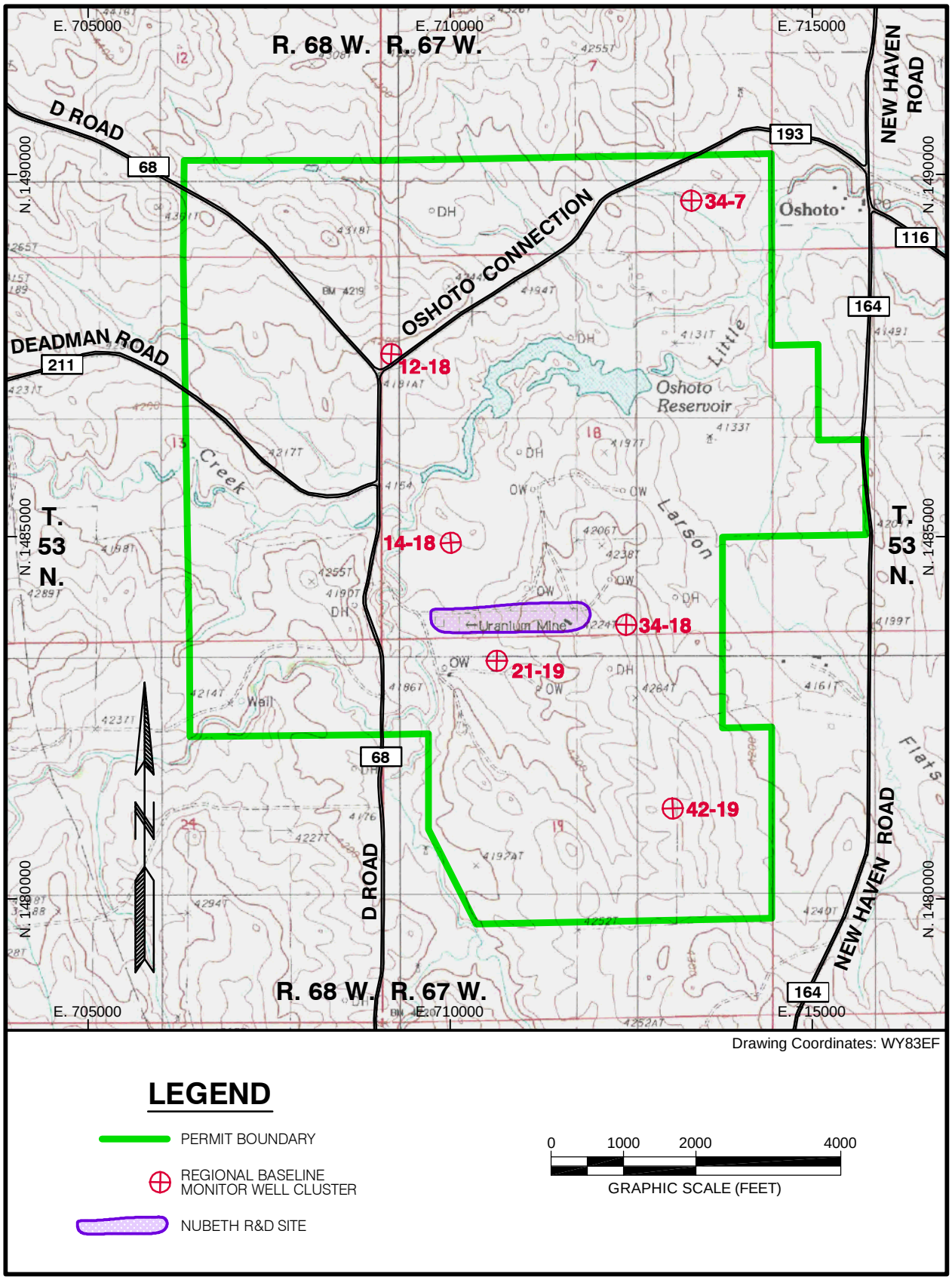


Figure 1. Groundwater Monitor Well Cluster Locations within the Project Area

Table 1. Strata Energy/Ross ISR Project Aquifer Test Well Completion Information

Date Pumping Test Began	Regional Baseline Well ID	Geologic Unit Monitored	Well Type	Radial Distance from Pumping Well (ft)	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)	Well Screen Length (ft)
July 7, 2010	34-7 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	318.50	378.50	60.00
	34-7 SA	Quaternary Alluvium/Colluvium	Observation	65.95	42.00	52.00	10.00
	34-7 SM	Lance Formation	Observation	92.70	210.00	245.00	35.00
	34-7 DM	Lower Fox Hills Sandstone	Observation	77.95	472.00	487.00	15.00
July 9, 2010	42-19 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	470.00	560.00	90.00
	42-19 SA	Quaternary Alluvium/Colluvium	Observation	49.24	98.00	108.00	10.00
	42-19 SM	Lance Formation	Observation	70.89	260.00	290.00	30.00
	42-19 DM	Lower Fox Hills Sandstone	Observation	52.46	600.00	610.00	10.00
July 12, 2010	34-18 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	460.00	565.00	105.00
	34-18 SA	Quaternary Alluvium/Colluvium	Observation	46.46	50.00	70.00	20.00
	34-18 SM	Lance Formation	Observation	70.55	278.00	298.00	20.00
	34-18 DM	Lower Fox Hills Sandstone	Observation	48.96	600.00	620.00	20.00
July 13, 2010	14-18 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	499.00	529.00	30.00
	14-18 SA	Quaternary Alluvium/Colluvium	Observation	52.99	35.00	65.00	30.00
	14-18 SM	Lance Formation	Observation	71.92	282.00	327.00	45.00
	14-18 DM	Lower Fox Hills Sandstone	Observation	52.35	570.00	585.00	15.00
July 15, 2010	21-19 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	433.00	468.00	35.00
	21-19 SA	Quaternary Alluvium/Colluvium	Observation	55.23	20.00	30.00	10.00
	21-19 SM	Lance Formation	Observation	72.03	260.00	315.00	55.00
	21-19 DM	Lower Fox Hills Sandstone	Observation	44.48	550.00	565.00	15.00

Table 1. Strata Energy/Ross ISR Project Aquifer Test Well Completion Information (Continued)

Date Pumping Test Began	Regional Baseline Well ID	Geologic Unit Monitored	Well Type	Radial Distance from Pumping Well (ft)	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)	Well Screen Length (ft)
July 21, 2010	12-18 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	474.00	584.00	110.00
	12-18 SA	Quaternary Alluvium/Colluvium	Observation	47.80	63.00	103.00	40.00
	12-18 SM	Lance Formation	Observation	71.00	342.00	352.00	10.00
	12-18 DM	Lower Fox Hills Sandstone	Observation	48.55	612.00	632.00	20.00
	OW1B57-1	Lower Lance Formation/Upper Fox Hills Sandstone	Observation	71.00	529.00[1]	536.00[1]	7.00[1]
	OW1B58-1	Lower Lance Formation/Upper Fox Hills Sandstone	Observation	70.05	513.00	531.00	18.00
	OW1B60-1	Lower Lance Formation/Upper Fox Hills Sandstone	Observation	70.25	509.00	525.00	16.00
July 27, 2010	OW1B57-1	Lower Lance Formation/Upper Fox Hills Sandstone	Pumping	0.00	529.00[1]	536.00[1]	7.00[1]
	OW1B58-1	Lower Lance Formation/Upper Fox Hills Sandstone	Observation	102.20	513.00	531.00	18.00
	OW1B60-1	Lower Lance Formation/Upper Fox Hills Sandstone	Observation	141.20	509.00	525.00	16.00
	12-18 OZ	Lower Lance Formation/Upper Fox Hills Sandstone	Observation	71.00	474.00	584.00	110.00
	12-18 SA	Quaternary Alluvium/Colluvium	Observation	114.00	63.00	103.00	40.00
	12-18 SM	Lance Formation	Observation	107.10	342.00	352.00	10.00
	12-18 DM	Lower Fox Hills Sandstone	Observation	60.30	612.00	632.00	20.00

[1] Well screen was not used in well OW1B57-1. Depths and length shown designate the open hole intake interval.

Table 2. Strata Energy/Ross ISR Project Pumping Test Drawdown and Response Summary

Regional Baseline Well ID	Well Type	Initial Depth to Water[1] (ft)	Water Level Elevation (ft amsl)	Constant Discharge Rate (gpm)	Duration of Pumping (min)	Maximum Drawdown (ft)	Time After Pump On For First Drawdown Response (min)	Specific Capacity (gpm/ft)
34-7 OZ	Pumping	84.73	4051.8	14.90	1442.00	28.01	0.00	0.53
34-7 SA	Observation	22.06	4113.3			no effects	no effects	
34-7 SM	Observation	56.07	4079.0			no effects	no effects	
34-7 DM	Observation	88.73	4046.4			no effects	no effects	
42-19 OZ	Pumping	301.21	3981.3	2.30	1443.00	47.98	0.00	0.05
42-19 SA	Observation	dry	-			n/a	n/a	
42-19 SM	Observation	155.60	4130.7			no effects	no effects	
42-19 DM	Observation	287.17	3981.3			no effects	no effects	
34-18 OZ	Pumping	279.83	3967.7	5.30	1448.00	64.33	0.00	0.08
34-18 SA	Observation	dry	-			n/a	n/a	
34-18 SM	Observation	136.12	4111.8			no effects	no effects	
34-18 DM	Observation	272.52	4375.9			apparent effects[2]	undetermined	
14-18 OZ	Pumping	155.43	4001.1	5.30	1448.00	117.21	0.00	0.05
14-18 SA	Observation	22.7	4134.1			no effects	no effects	
14-18 SM	Observation	66.60	4089.7			no effects	no effects	
14-18 DM	Observation	158.00	3998.1			apparent effects[3]	immediate	
21-19 OZ	Pumping	214.26	3954.2	5.30	1460.00	42.88	0.00	0.12
21-19 SA	Observation	10.8	4158.2			no effects	no effects	
21-19 SM	Observation	84.84	4086.1			no effects	no effects	
21-19 DM	Observation	196.25	3973.7			no effects	no effects	

Table 2. Strata Energy/Ross ISR Project Pumping Test Drawdown and Response Summary (Continued)

Regional Baseline Well ID	Well Type	Initial Depth to Water[1] (ft amsl)	Water Level Elevation (ft amsl)	Constant Discharge Rate (gpm)	Duration of Pumping (min)	Maximum Drawdown (ft)	Time After Pump On For First Drawdown Response (min)	Specific Capacity (gpm/ft)
12-18 OZ	Pumping	170.55	4017.3	5.30	4358.00	21.99	0.00	0.24
12-18 SA	Observation	47.63	4138.3			no effects	no effects	
12-18 SM	Observation	91.00	4096.1			no effects	no effects	
12-18 DM	Observation	176.04	4013.3			no effects	no effects	
OW1B57-1	Observation	170.29	4017.5			5.61	0.00	
OW1B58-1	Observation	169.98	4017.7			7.15	0.00	
OW1B60-1	Observation	167.04	4017.4			7.11	0.00	
OW1B57-1	Pumping	170.58	4017.5	5.66	1444.00	48.21	0.00	0.12
OW1B58-1	Observation	170.90	4017.7			5.03	0.00	
OW1B60-1	Observation	167.91	4017.4			6.18	0.00	
12-18 OZ	Observation	171.79	4017.3			5.05	0.00	
12-18 SA	Observation	47.61	4138.3			no effects	no effects	
12-18 SM	Observation	91.16	4096.1			no effects	no effects	
12-18 DM	Observation	175.99	4013.3			no effects	no effects	

[1] Below measuring point (top of casing) when test began.
[2] Refer to Section 4.3.3.
[3] Refer to Section 4.4.3.

Table 3. Strata Energy/Ross ISR Project Pumping Test Summary of Hydraulic Characteristics

Regional Baseline Well ID	Well Type	Interpretation Method	Transmissivity (ft^2/day)	Aquifer Thickness (ft)	Hydraulic Conductivity (ft/day)	Storativity (unitless)
34-7 OZ	Pumping	Cooper Jacob Straight Line Drawdown	367.60	60.00	6.13	n/a
		Theis Recovery	172.50	60.00	2.88	n/a
42-19 OZ	Pumping	Cooper Jacob Straight Line Drawdown	12.70	90.00	0.14	n/a
		Theis Recovery	13.40	90.00	0.15	n/a
34-18 OZ	Pumping	Cooper Jacob Straight Line Drawdown	26.20	105.00	0.25	n/a
		Theis Recovery	19.80	105.00	0.19	n/a
14-18 OZ	Pumping	Cooper Jacob Straight Line Drawdown	3.80	30.00	0.13	n/a
		Theis Recovery	23.80	30.00	0.79	n/a
21-19 OZ	Pumping	Cooper Jacob Straight Line Drawdown	34.70	35.00	0.99	n/a
		Theis Recovery	25.60	35.00	0.73	n/a
12-18 OZ	Pumping	Cooper Jacob Straight Line Drawdown	116.90	94.00	1.24	n/a
		Theis Recovery	70.80	94.00	0.75	n/a
OW1B57-1	Observation	Cooper Jacob Straight Line Drawdown	102.20	25.00	4.08	1.50E-04
		Theis Recovery	96.70	25.00	3.86	
		Hantush (Confined – Partial Penetration)	99.10	25.00	3.97	1.50E-04
OW1B58-1	Observation	Cooper Jacob Straight Line Drawdown	88.20	18.00	4.90	5.70E-05
		Theis Recovery	80.50	18.00	4.47	
		Hantush (Confined – Partial Penetration)	88.10	18.00	4.89	5.80E-05
OW1B60-1	Observation	Cooper Jacob Straight Line Drawdown	88.40	16.00	5.53	6.10E-05
		Theis Recovery	84.50	16.00	5.28	
		Hantush (Confined – Partial Penetration)	88.20	16.00	5.51	6.20E-05

Table 3. Strata Energy/Ross ISR Project Pumping Test Summary of Hydraulic Characteristics (Continued)

Regional Baseline Well ID	Well Type	Interpretation Method	Transmissivity (ft^2/day)	Aquifer Thickness (ft)	Hydraulic Conductivity (ft/day)	Storativity (unitless)
OW1B57-1	Pumping	Cooper Jacob Straight Line Drawdown	81.00	25.00	3.24	
		Theis Recovery	80.30	25.00	3.21	
OW1B58-1	Observation	Cooper Jacob Straight Line Drawdown	137.10	18.00	7.62	1.00E-05
		Theis Recovery	92.70	18.00	5.15	
		Hantush (Confined – Partial Penetration)	111.00	18.00	6.17	3.50E-05
OW1B60-1	Observation	Cooper Jacob Straight Line Drawdown	113.60	16.00	7.10	4.00E-06
		Theis Recovery	96.20	16.00	6.01	
		Hantush (Confined – Partial Penetration)	90.80	16.00	5.68	1.30E-05
12-18 OZ	Observation	Theis Drawdown (Confined)	103.90	94.00	1.11	1.10E-04
		Cooper Jacob Straight Line Drawdown	105.60	94.00	1.12	1.00E-04
		Theis Recovery	93.20	94.00	0.99	
		Minimum	**3.80**		**0.13**	**4.00E-06**
		Maximum	**367.60**		**7.62**	**1.50E-04**
		Median	**88.30**		**3.55**	**6.10E-05**
		Geometric Mean	**65.62**		**1.91**	**4.54E-05**
		Average	**87.78**		**3.26**	**6.70E-05**

2.0 SITE CHARACTERIZATION

2.1 Stratigraphy

A comprehensive discussion of the Ross area hydrostratigraphy is presented in Section 2.7.3. The units discussed in this report (SA, SM, OZ, and DM) are discrete stratigraphic intervals within the lower Lance and upper Fox Hills formations.

2.1.1 Surficial Aquifer (SA)

The surficial aquifer (SA) is the first, or upper-most, water-bearing unit at the Ross ISR Project. The SA unit is under water table conditions. The SA aquifer wells are completed in the first unconfined water-bearing interval encountered within the Ross ISR Project Area. Total depths of the SA wells range from 22 feet bgl (at the 21-19 SA well site) to 97 feet bgl (at the dry 42-19 SA well site). Two of the SA wells, 42-19 SA and 34-18 SA, are dry. The depths to water in the SA wells range from 11.87 feet bgl (at the 21-19 SA well site) to 51.59 feet bgl (at the 12-18 SA well site).

2.1.2 Shallow Monitoring Unit (SM)

The SM unit consists of a Lance Formation non-ore bearing sandstone overlying the ore zone. The SM unit will be monitored for vertical excursion from the ore zone. The SM unit consists of very fine grained sandstone that can be correlated across the Ross ISR Project Area. The SM unit is separated from the ore zone by interbedded sandstones, siltstones and claystones. The SM sandstone is the first areally consistent, water-bearing interval that lies stratigraphically above the OZ unit. The distance from the base of the SM screened interval to the top of the OZ interval is variable, ranging from 73 feet at the 34-7 well cluster to 180 feet at the 42-19 well cluster. The SM unit is a confined aquifer, with confining heads ranging from approximately 250 feet in well cluster 12-18 to 120 feet in well cluster 42-19. Confining head, a term used interchangeably with hydraulic head or hydrostatic head, is defined herein as the height of a vertical column of water above the top of the

monitoring unit. Table 4 presents head data for the various monitoring units in the proposed project area. The heads in the SM unit are 27 to 149 feet higher than those in the ore zone.

Table 4. Heads in Various Ross Monitoring Units (July 2010 Data)

Well Cluster	SM Head (ft, amsl)	OZ Head (ft, amsl)	DM Head (ft, amsl)
12-18	4,096.1	4,017.3	4,013.3
14-18	4,089.7	4,001.1	3,998.1
21-19	4,086.1	3,954.2	3,973.7
34-18	4,111.8	3,967.7	3,975.9
34-7	4,079.0	4,051.8	4,046.4
42-19	4,130.7	3,981.3	3,997.3

2.1.3 Ore Zone Aquifer (OZ)

As its name implies, the ore zone (OZ) is the mining target at the proposed Ross ISR Project. The ore zone consists of uranium-bearing sandstone units within the upper Fox Hills Formation (FH horizon) and the lower Lance Formation (LT horizon). A single ore zone monitoring well located at all six of the well clusters is completed within the entire ore-bearing interval, which ranges from up to 110 feet thick (at the 12-18 well cluster) down to 30 feet thick (at the 14-18 well cluster), from the highest identified ore-bearing interval to the lowest identified ore-bearing interval. Beneath the base of the ore zone is a dark grey claystone, referred to as the BFH horizon, or the Lower Confining Unit. At only the 12-18 well cluster, three additional monitoring wells were installed in the ore zone (wells OW1B57-1, OW1B58-1 and OW1B60-1), the intake portion of each only partially penetrating the aquifer. As shown in Table 1, the intake section of these three wells ranges from just 7 feet to 18 feet of the entire 110-foot thick ore zone unit at this particular location.

Typically, the ore-bearing roll front sands are very fine grained and are interbedded with claystones. The ore zone is a confined aquifer, with confining

heads ranging from around 300 feet at all well clusters except at the 42-19 well cluster where the ore zone confining head is approximately 200 feet.

2.1.4 Deep Monitoring Unit (DM)

The DM unit wells are completed in the first discrete sandstone beneath the ore zone. The DM unit (BFS horizon) is isolated within the Lower Confining Unit (BFH shale horizon). Typically, the top of the DM screen interval ranges from 28 feet to 93 feet below the base of the OZ screened interval, with well 12-18 OZ and 12-18 DM having the least vertical separation, and wells 34-7 OZ and 34-7 DM having the greatest vertical separation. The DM unit is a confined aquifer, with confining heads ranging from 330 feet at the 42-19 well cluster to 440 feet in the 12-18 well cluster. The heads in the DM unit are lower than the OZ heads in some locations, and higher than the OZ heads in others. The groundwater model (Addendum 2.7-H) discusses in detail how pumpage during the last 30 years from oil field water supply wells completed in the OZ and DM units that are located within the proposed project area has apparently depressed the aquifers' hydrostatic heads from background conditions, particularly in the southern portion of the proposed project area. The heads in the SM, OZ, and DM wells at the various clusters are presented in Table 4.

2.2 Previous Investigations

Previous tests were conducted at the Ross site by Nubeth in 1977 (Manera 1977 and Hamilton 1977) and in 1978 (Manera 1978). In the 1977 studies, Manera and Hamilton analyzed the same data set with both reports reporting essentially the same results. A 72-hour pumping test was conducted on a pumping well completed in the ore zone with observation wells completed in the ore zone, the interval overlying the ore zone referred to by Manera as the "A" zone, and the water table aquifer (referred to as the SA unit by Strata). The Nubeth "A" zone is the first sandy interval above a persistent shale aquitard (referred to as the Upper Confining Unit by Strata) overlying the ore zone. The "A" zone includes the SM unit and various sandstone horizons beneath it.

The purpose of the 1977 test was to measure hydraulic parameters of T, K, and S within the ore zone and to determine the degree of hydraulic isolation of the ore zone from the overlying intervals. The test site was located in the SE¼ of the SW¼ of Section 18, T53N, R67W, slightly north of the 21-19 well cluster (see Figure 1). Four wells each were completed in the water table aquifer (SA unit), the "A" zone, and ore zone. The screened intervals of the pumping well was 105 feet in thickness, with 20 feet of blank between a 5-foot screened interval and a 100-foot screened interval. Ore zone transmissivity (T) values measured from the pumping test ranged from 11 ft^2/day to 25 ft^2/day, with an average T of 18.5 ft^2/day. Using an aquifer thickness of 100 feet, ore zone hydraulic conductivity (K) measured by Manera ranged from 0.10 ft/day to 0.25 ft/day, with an average K of 0.18 ft/day. Storativity (S) values ranged from 8.6×10^{-5} to 2.5×10^{-4} with an average of 1.4×10^{-4}. No effects from pumping were noted in the wells completed in the overlying SM interval.

The 1978 study was conducted in the same vicinity as the 1977 study (Figure 1). This study consisted of a proposed mining pattern comprised of a five spot program with one pumping well and six observation wells, all completed in the ore zone unit. Transmissivity values ranged from 12.8 ft^2/day to 29.4 ft^2/day, and averaged 17.5 ft^2/day, with an average K of 0.22 ft/day. Storativity values ranged from 4.5×10^{-5} to 8.3×10^{-5} and averaged 5.8×10^{-5}.

3.0 2010 PUMPING TEST PROCEDURES

3.1 Well Installation, Completion and Borehole Abandonment

All baseline monitoring wells were constructed using conventional mud-rotary drilling techniques. At each of the six well clusters a 6¼-inch diameter pilot hole was drilled to a depth through the DM interval, and geophysical logs consisting of natural gamma, resistivity and SP were acquired. Following logging, the target completion intervals for the deep monitor (DM), ore zone (OZ), shallow monitor (SM) and surficial aquifer (SA) were selected.

Each well consisted of a pilot hole drilled to the top of the target interval and reamed to 8¾ inches to allow installation of casing and screen assembly.

The wells were constructed with 5-inch diameter, SDR-17 PVC well casing. PVC well centralizers were placed at 60-foot intervals to the top of the target aquifer interval. The annular space between the casing and the borehole wall was then filled with cement slurry consisting of a 14.6 to 15.0 pound per gallon mixture of Type I cement and 2 percent bentonite, using positive displacement. After allowing the cement to cure for at least 72 hours the target intervals were under-reamed to 7 inches in diameter across the target interval.

The intake interval consists of 3-inch diameter, 0.010-inch slot rod-based PVC V-wire well screen with a 10-20 silica sand filter pack. Following filter pack placement, air-lift development was conducted until turbidity readings stabilized. The wells were again logged to assess the completeness of the filter pack installation. Section 1.2 of the TR includes a detailed description of well construction materials, methods and development employed by Strata.

Dedicated submersible pumps, sounding tubes and recording pressure transducers were installed in the SM, OZ and DM wells to expedite groundwater sample collection and document groundwater level elevations. Well completion data are presented in Table 1.

3.1.1 Exploration Hole Abandonment

Prior to conducting the two aquifer tests at the 12-18 well cluster, all exploration boreholes within a 522-foot radius of well 12-18 OZ were located, reentered and plugged with cement starting at the bottom of the hole and filling it to the surface. Some 55 boreholes were plugged, and the abandonment records are included in Appendix 8. The 522-foot radius was calculated according to the theory that in a partially penetrating well, the vertical component of flow is negligible if the well is located more than the distance described by:

$$(1.5)(b)\left(\frac{K_h}{K_z}\right)^{1/2}$$

Where b is aquifer thickness and K_h and K_z are horizontal and vertical hydraulic conductivity, respectively (Fetter 1987). At well cluster 12-18, the OZ interval thickness (b) is 110 feet, and using the assumption that that K_h is 10 and K_z is 1, the distance at which vertical flow is negligible is 522 feet, decreasing to 165 feet as the ratio of K_h to K_z approaches 1.

Strata's decision to plug all exploration drill holes at only the 12-18 well cluster and not at the other five monitoring well clusters prior to conducting the aquifer tests was based primarily on economics. Some of the richest uranium ore grades are found in the area of the 12-18 well cluster; therefore, that site in particular is considered to be a likely location to initiate ISR production for the Ross Project. As such, the results of the aquifer tests conducted at the 12-18 well cluster were considered most important with respect to mineability issues. Meticulous abandonment procedures ensure that the hydraulic characteristics and confinement of the ore zone were not anthropogenically compromised via vertical hydraulic communication that may be created by drill holes within the pump tests' area of influence. Ultimately, Strata intends to locate and abandon all exploration boreholes in the same manner at all areas targeted for ISR production within the proposed project area.

3.2 Pumping Test Equipment/Discharge Management

All OZ wells are equipped with dedicated Grundfos submersible 2 hp (Model 16 S20-18) pumps powered by a portable generator. The pumps are set on 1.25-inch diameter galvanized steel drop pipe. Pump setting depths ranged from 288 feet in well 34-7 OZ to 469 feet in well 14-18 OZ. Discharge rate was regulated using a Dole orifice valve, pressure gage, and gate valve combination. During testing, constant pressure at the well head was maintained by adjusting the gate valve. Typically, the discharge rates of each of the seven tests varied by less than 10 percent during the test.

Field parameters of electrical conductivity, pH, temperature, dissolved oxygen, oxidation-reduction potential and turbidity were measured on a regular

basis and recorded during the course of each test. Discharge was authorized through a temporary WYPDES discharge permit WYG720229. In accordance with the permit, the discharge was monitored for flow, TDS, TSS, pH, radium, and uranium.

3.3 Background Monitoring/Antecedent Conditions

As each of the monitoring wells were installed, the monitoring of background/antecedent conditions began with acquisition of manual groundwater level measurements (starting January 2010) using an electric water level meter. Dedicated, In-Situ Inc. Level TROLL® non-vented pressure transducers were installed with the well pumps in March 2010. Dedicated pressure transducer depth settings are presented in Table 2, while transducer specifications are presented in Table 5. Transducer accuracy, as stated by the manufacturer, is ±0.1 percent of full-scale reading (i.e., 100 to 300 psi); therefore, the limit of accuracy varies from 0.1 to 0.3 psi, or about 0.2 to 0.7 feet.

Table 5. Monitor Well Pressure Transducer Specifications

Well Type	Transducer	Parameters Measured	Accuracy/Resolution
SA, SM	Level Troll 500 100 psi	temp, pressure level	Temp ±0.1° C/0.01°C Press. ± 0.1%/± 0.005%
OZ, DM	Level Troll 500 300 psi	temp, pressure level	Temp ±0.1° C/0.01°C Press. ± 0.1%/± 0.005%

Continuous barometric pressure data collection at the proposed project area began in March 2010 with installation of In-Situ's Baro TROLL® at Strata's Oshoto field office. A graph of barometric pressure for July 2010 is presented in Figure 2, and as shown, the average barometric pressure was 12.7 psi. The maximum pressure change that month was a drop of 0.26 psi, which occurred during the period from July 8 through July 13.

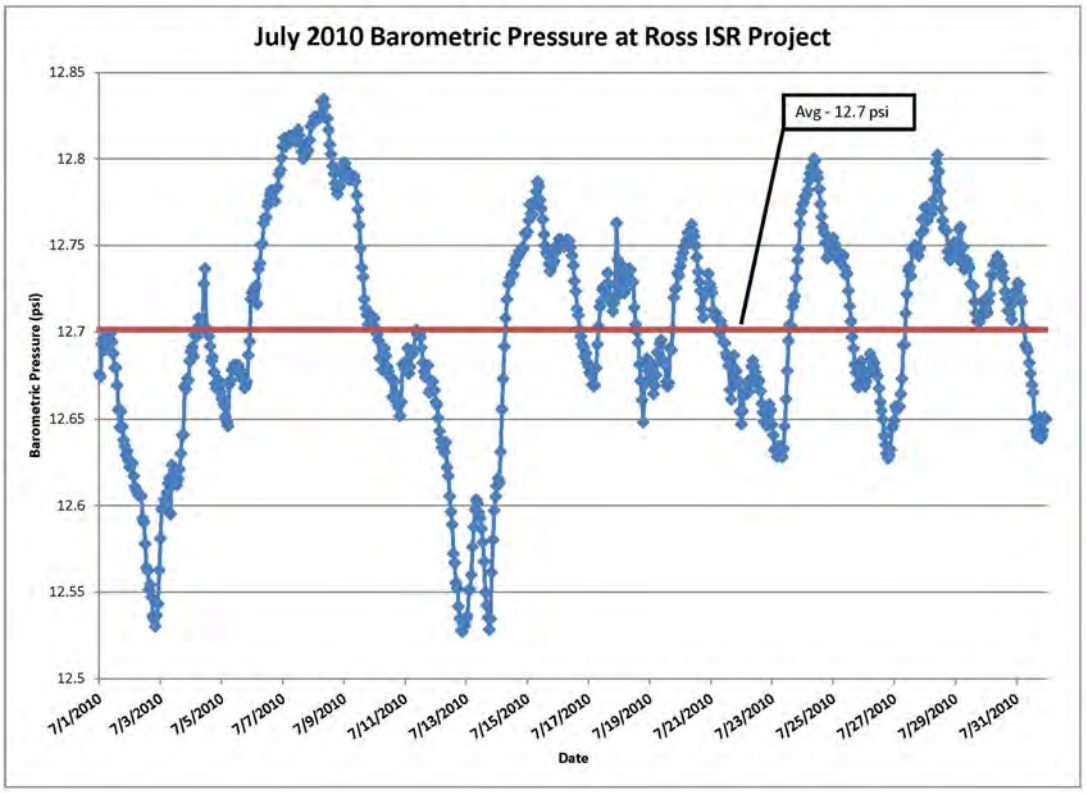


Figure 2. Ross Area Barometric Pressure July 2010

A non-vented pressure transducer measures the total head (or absolute pressure), which is the sum of the barometric pressure head and the water surface elevation (potentiometric) head. As such, barometric effects can alter water level data that is recorded by a non-vented pressure transducer. In general, barometric effects and water level change is more pronounced in confined aquifers. Water level observations made during aquifer tests are susceptible to distortions due to the influence of fluctuating barometric pressure. Therefore, in order for a non-vented pressure transducer to record representative changes in water levels, the barometric pressure effects must be subtracted. In-Situ Inc's Win-Situ® BaroMerge™ software was used to compensate for barometric pressure effects and correct the non-vented transducer water level data.

Groundwater level hydrographs for each monitoring well are included in Addendum 2.7-G in the TR. The period of record is January through October 2010. Data acquisition will continue through permit approval. The current

potentiometric surfaces, hydraulic gradients, and recharge/discharge areas for the DM, OZ, SM, and SA aquifer units are addressed in Section 2.7.3.3 of the TR.

During the test period, all transducers at the cluster being tested were set to record data each minute. The minute by minute data for each well are presented in Appendices 1 through 7. An interesting phenomena is readily and consistently apparent in the DM well data and in some of the SM well data that consists of minor (<0.1 to 0.2 feet), and rapidly occurring water level fluctuations. These very rapid fluctuations can be manually measured with an electric water level meter, confirming that they are not attributable to "instrument noise" via the recording pressure transducers. The cause of these fluctuations is currently unknown. In addition, slight perturbations can be noted on time-drawdown data collected during the pumping tests, these perturbations had no effect on the slope or shape of the semi-log or log-log drawdown curves.

Due to the low permeability of the DM zone, water level recovery to hydrostatic equilibrium following scheduled water quality sample collection can take as long as a month. Due to water quality sampling that occurred in June, the DM well hydrographs were on a rising limb when the aquifer tests were conducted in July. This antecedent water level trend in the DM aquifer is noted in the following aquifer test analysis discussions.

3.4 Test Procedures and Methods of Analysis

As noted above, the baseline monitoring wells completed in the SM, OZ, and DM units were equipped with dedicated submersible pumps and recording pressure transducers. Prior to conducting the aquifer tests in July 2010, the discharge flow rates and resulting time-drawdown data were recorded during scheduled water quality sample collection. Based on the well responses during pumping, the optimum pumping rate for the aquifer tests was estimated, eliminating the need for extensive pre-testing. Based on the OZ well performance when water quality sampled, the pre-selected discharge rates

were, for the most part, adequate to stress the well for the purposes of aquifer analysis.

The Aquifer^{Win32} (ESI 2003) software package was used for the analysis of the aquifer test data using various analytical methods. The raw transducer data were downloaded from the Level TROLLS to a handheld computer in the field, then transferred into In-Situ Inc.'s Win-Situ® software in the office. The original Level TROLL log files (".wsl" file extension) were then corrected to eliminate barometric pressure effects from the measurements with the BaroMerge software ("-BaroMerge.wsl" file extension), which were then converted into Excel files (".xls" file extension). The time-drawdown data, along with the pumping rates and well completion information, were then imported into the Aquifer^{Win32} program for analysis.

Prior to conducting these pumping tests, water level records from the OZ wells were compared to the barometric pressure records, and it was noted that the transmission of barometric pressure effects is very close to instantaneous, typical of confined aquifers. These data records also show that changes to water levels in response to barometric pressure changes are relatively small. For example, a barometric pressure increase of 0.2 psi recorded from June 5 through June 7, 2010, induced a water level decline of roughly 0.2 feet in well 12-18 OZ. The barometric pressure recorded at Strata's Oshoto field office during the entire month of June, the time of year that typically brings intense thunderstorms to northeastern Wyoming, fluctuated between a low of 12.53 psi and a high of 12.84 psi. Therefore, the barometric efficiency, or sensitivity to barometric change, for the ore zone aquifer was discounted for these aquifer tests because the scale of water level changes from barometric pressure compared to the scale of drawdown by pumping would be insignificant and induce essentially no error in the drawdown data.

4.0 WELL CLUSTER PUMPING TESTS

4.1 34-7

4.1.1 Well Locations and Completion Intervals

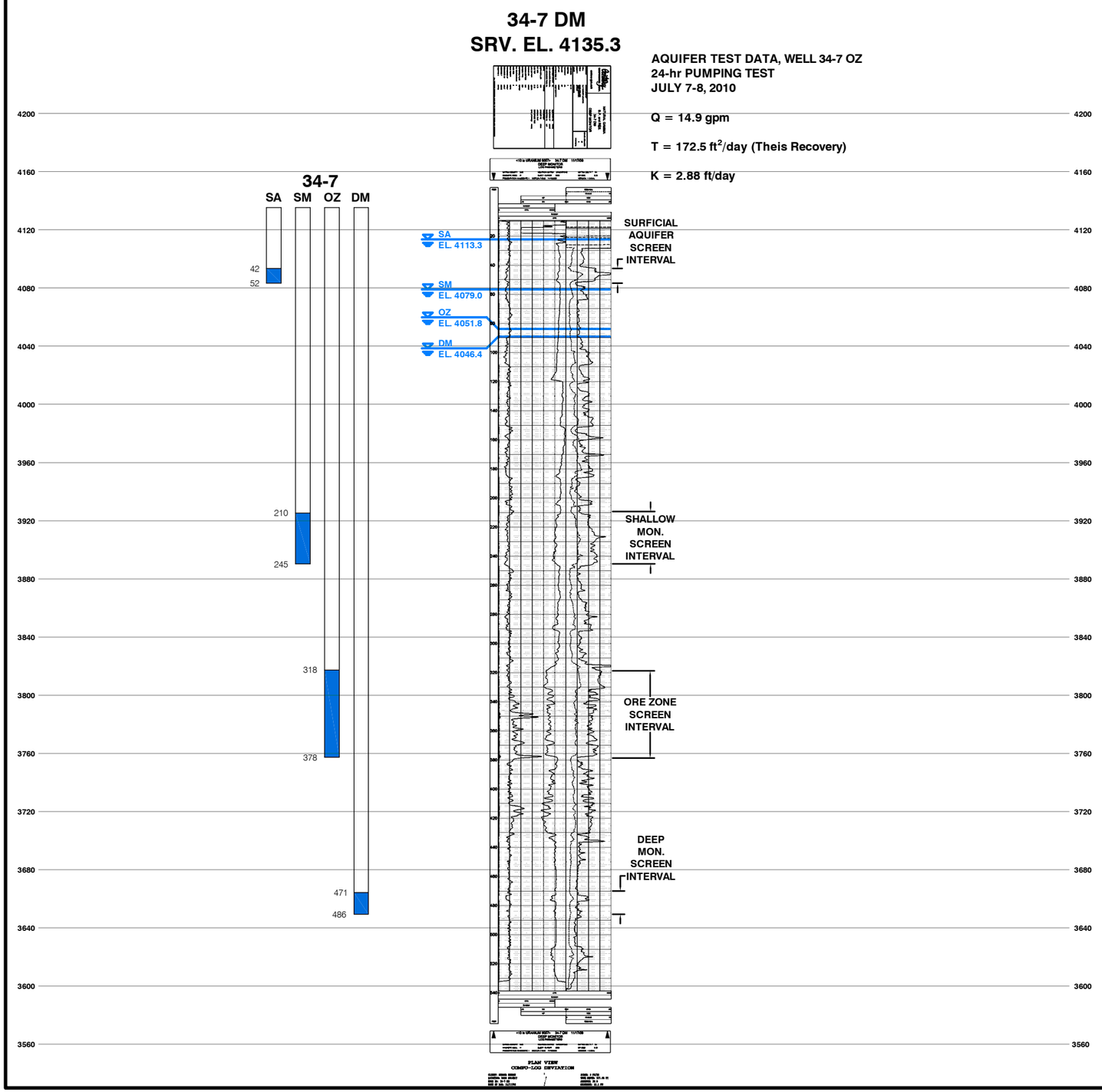
The 34-7 well cluster is located in the SE¼ SE¼ of Section 7, T53N, R67W as depicted on Figure 1. The well cluster consists of one well each completed in the SA, SM, OZ and DM monitoring intervals. Figure 3 depicts the distances between wells and the type log at that location with respective completion intervals and water level elevations. The 34-7 well cluster was tested on July 7-8, 2010 by pumping the OZ well and observing responses in the pumping well, the overlying SM and SA wells, and the underlying DM well.

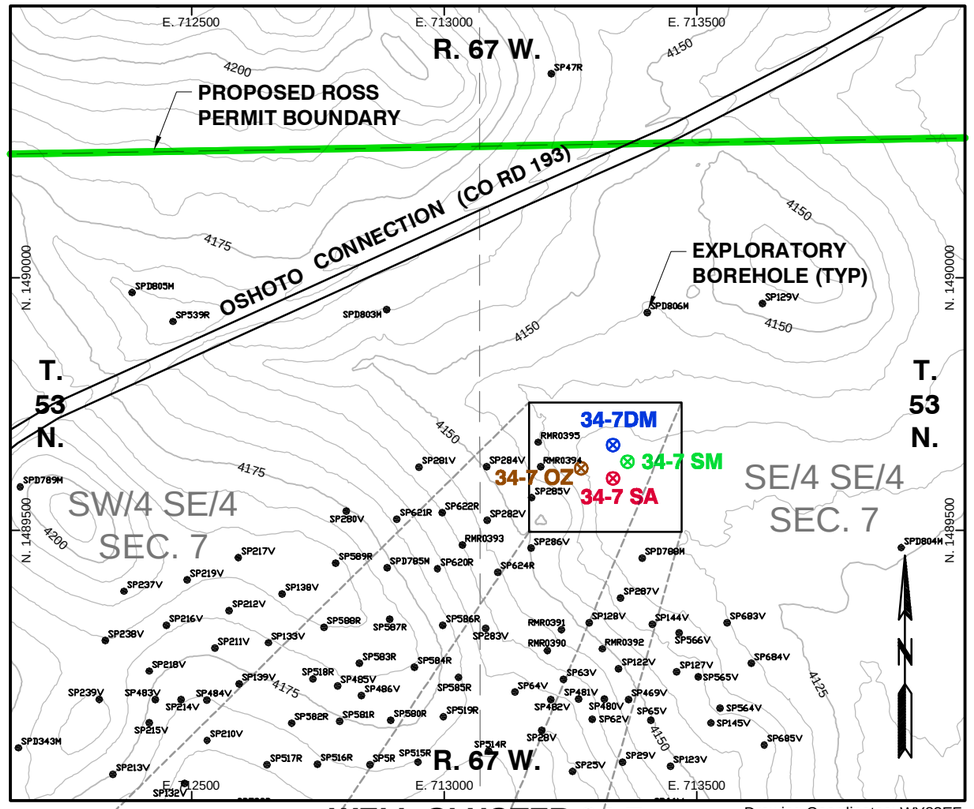
4.1.2 Pumping Rate and Duration

The pumping phase of the constant rate test at the 34-7 well cluster was initiated at 1545 hours, on July 7 and ended on July 8 at 1545 hours, for a total duration of 1,440 minutes, or 24 hours. The weighted average discharge rate for 24 hours was 14.9 gpm. In effort to maintain constant discharge, a Dole flow control valve rated at 15 gpm was used. Dole valves are designed to deliver a constant rate of water flow over a wide pressure range. Despite the Dole valve's intended function, test personnel endeavored to maintain constant discharge pressure and flow rate by making minor adjustments with the gate valve during drawdown. Field data sheets and time-drawdown plots are presented in Appendix 1.

4.1.3 Well Responses

The drawdown and recovery plot for the pumped well is presented in Appendix 1, as are the hydrographs of wells 34-7 SM and 34-7 DM. Total drawdown in the pumped well was 28.01 feet. Twenty-four feet of drawdown occurred in the first 10 minutes of the test. The steep portion of the semi-log drawdown curve (approximately the first 30 minutes of pumping) is attributed to the rapid removal of water held in well bore storage. Drawdown diminished slightly as the result of an undetectable decline in discharge rate from roughly



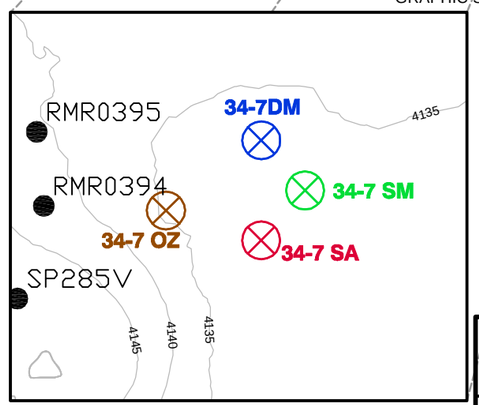


WELL CLUSTER 34-7

0 150 300 600

GRAPHIC SCALE (FEET)

Drawing Coordinates: WY83EF



DETAIL

0 50 100 200

GRAPHIC SCALE (FEET)

SA EL. SM EL. OZ EL. DM EL.

WATER LEVEL ELEVATIONS IN RESPECTIVE AQUIFER FROM JULY 2010 WATER LEVEL SURVEY

STRATA ENERGY

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Date	Description

ADDENDUM 2.7-F
FIGURE 3

34-7 WELL CLUSTER LOCATION AND LAYOUT

Drawn By: RAM
Checked By: MJE
Date: 12/2/10

FILE: ROSS_ATR_OW_CL_34-7

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200 minutes to 1,100 minutes into the test, this can be seen on the time-drawdown plot for the pumped well. Roughly 0.5 foot of recovery had occurred over that time interval, so the discharge rate was adjusted up slightly and maintained until the pumping period ended. No response was observed in the SA, SM or DM wells at this site during the entire drawdown and recovery period.

4.1.4 Determination of Aquifer Parameters

The time-drawdown data from the pumped well, 34-7 OZ, were analyzed using the Cooper–Jacob drawdown (1946) method and the Theis recovery (1935) method. The analyses are presented in Appendix 1 and results are summarized in Table 3. The Theis recovery analysis is likely more representative of actual aquifer conditions than the Cooper–Jacob analysis, as the Theis analysis is not affected by well entrance losses or the slight adjustments that were made in the pumping rate.

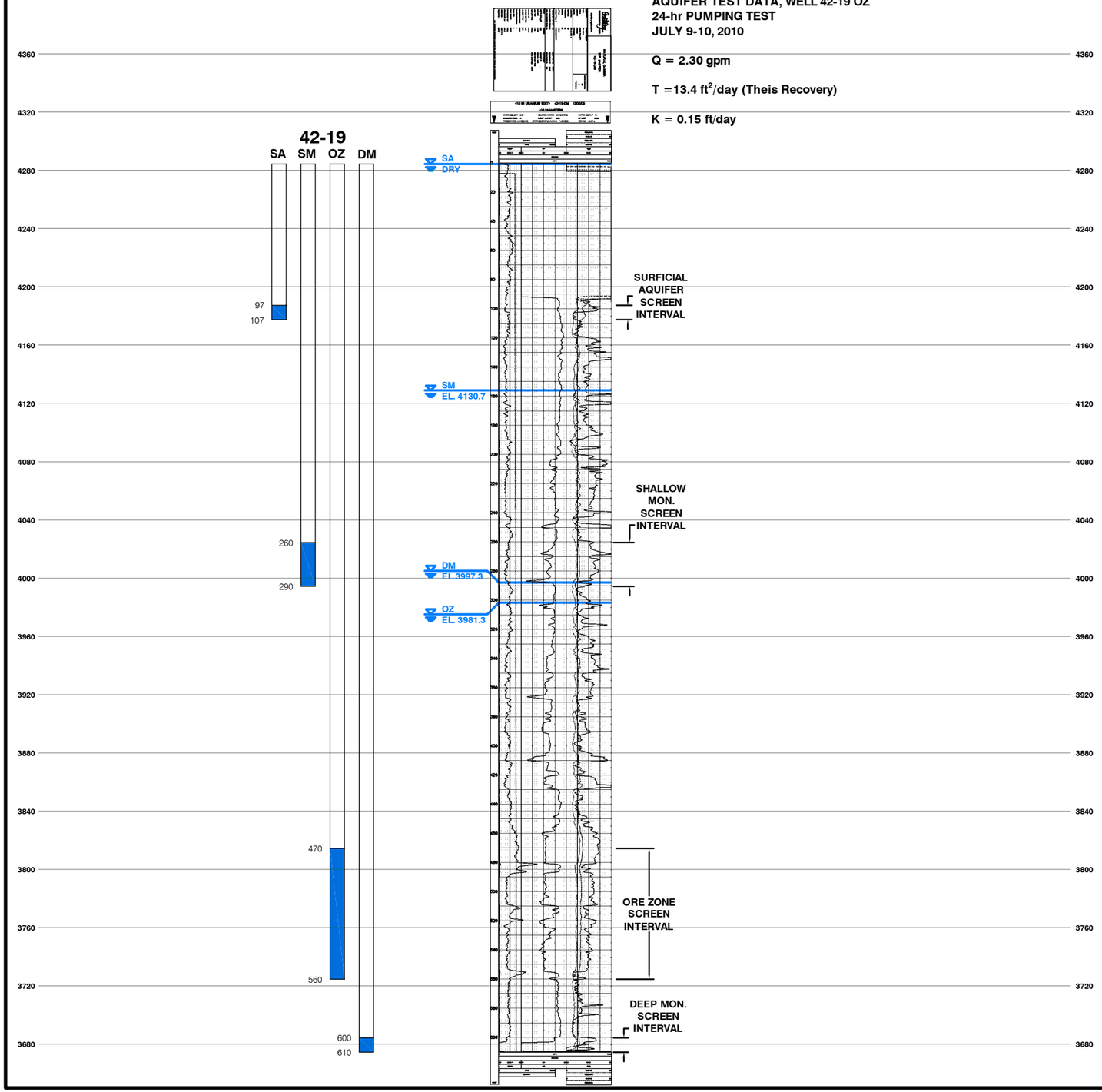
4.2 42-19

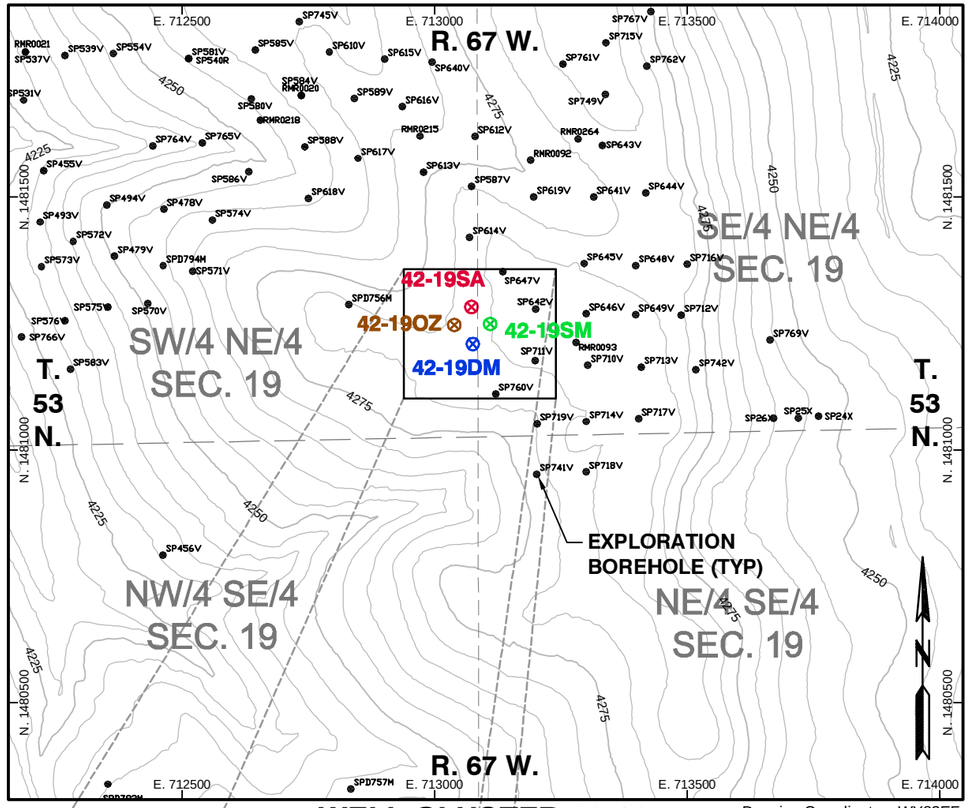
4.2.1 Well Locations and Completion Intervals

The 42-19 well cluster is located in the SW¼ NE¼ of Section 19, T53N, R67W as depicted on Figure 1. The well cluster consists of one well each completed in the SA, SM, OZ and DM monitoring intervals. Figure 4, depicts the distances between wells and the type log at that location with respective completion intervals and water level elevations. The 42-19 well cluster was tested on July 9-10, 2010 by pumping the OZ well and observing responses in the pumping well, the overlying SM and SA wells, and the underlying DM well.

4.2.2 Pumping Rate and Duration

The pumping phase of the constant rate test at the 42-19 well cluster was initiated at 0930, for a total duration of 1,443 minutes, or 24 hours and 3 minutes. The weighted average discharge rate for 24 hours was 2.3 gpm. A Dole flow control valve rated at 4 gpm was utilized to assist in maintaining a



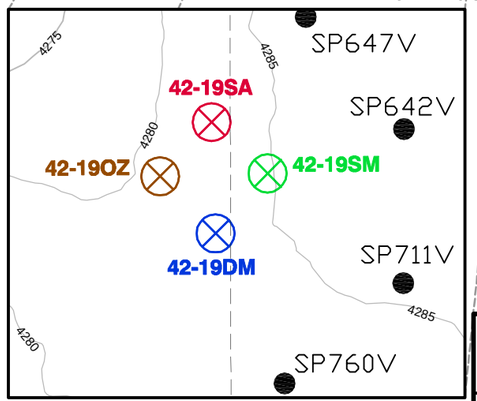


Drawing Coordinates: WY83EF

WELL CLUSTER 42-19

0 150 300 600

GRAPHIC SCALE (FEET)



DETAIL

0 50 100 200

GRAPHIC SCALE (FEET)

SA EL. SM EL. OZ EL. DM EL.

WATER LEVEL ELEVATIONS IN RESPECTIVE AQUIFER FROM JULY 2010 WATER LEVEL SURVEY

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ADDENDUM 2.7-F
FIGURE 4

42-19 WELL CLUSTER LOCATION AND LAYOUT

Drawn By: MBM
Checked By: MJE
Date: 12/2/10

FILE: ROSS_ATR_OW_CL_42-19

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constant discharge rate. Field data sheets and time-drawdown plots are presented in Appendix 2.

4.2.3 Well Responses

The drawdown and recovery plot for the pumped well, 42-19 OZ, and the hydrographs of wells 42-19 SM and 42-19 DM are included in Appendix 2. Total drawdown in the pumped well was 47.98 feet. No drawdown response was observed in the SM well, while the hydrograph for the DM well depicts a water level decline of about 0.05 feet approximately 500 minutes into the test. The 0.05-foot decline observed in the DM unit cannot be attributed to the compromised integrity of the shale layer (referred to by Strata as the Lower Confining Unit) between the OZ and DM screened intervals caused by unplugged exploration holes. None of the boreholes in the vicinity of the 42-19 well cluster penetrate the DM interval. The cause of the slight perturbation noted in the DM water level during pumping of the OZ well is unclear, but probably just due to a natural antecedent fluctuation.

4.2.4 Determination of Aquifer Parameters

The time-drawdown data from the pumped well, 42-19 OZ, were analyzed using the Cooper-Jacob drawdown method and the Theis recovery method. The aquifer parameters determined by the Cooper-Jacob drawdown method closely compare with the Theis recovery method. The analyses are presented in Appendix 2 and results are summarized in Table 3.

4.3 34-18

4.3.1 Well Locations and Completion Intervals

The 34-18 well cluster is located in the SW¼ SE¼ of Section 18, T53N, R67W as depicted on Figure 1. The well cluster consists of one well each completed in the SA, SM, OZ and DM monitoring intervals. Figure 5 depicts the distances between wells and the type log at that location with respective completion intervals and water level elevations. The 34-18 well cluster was

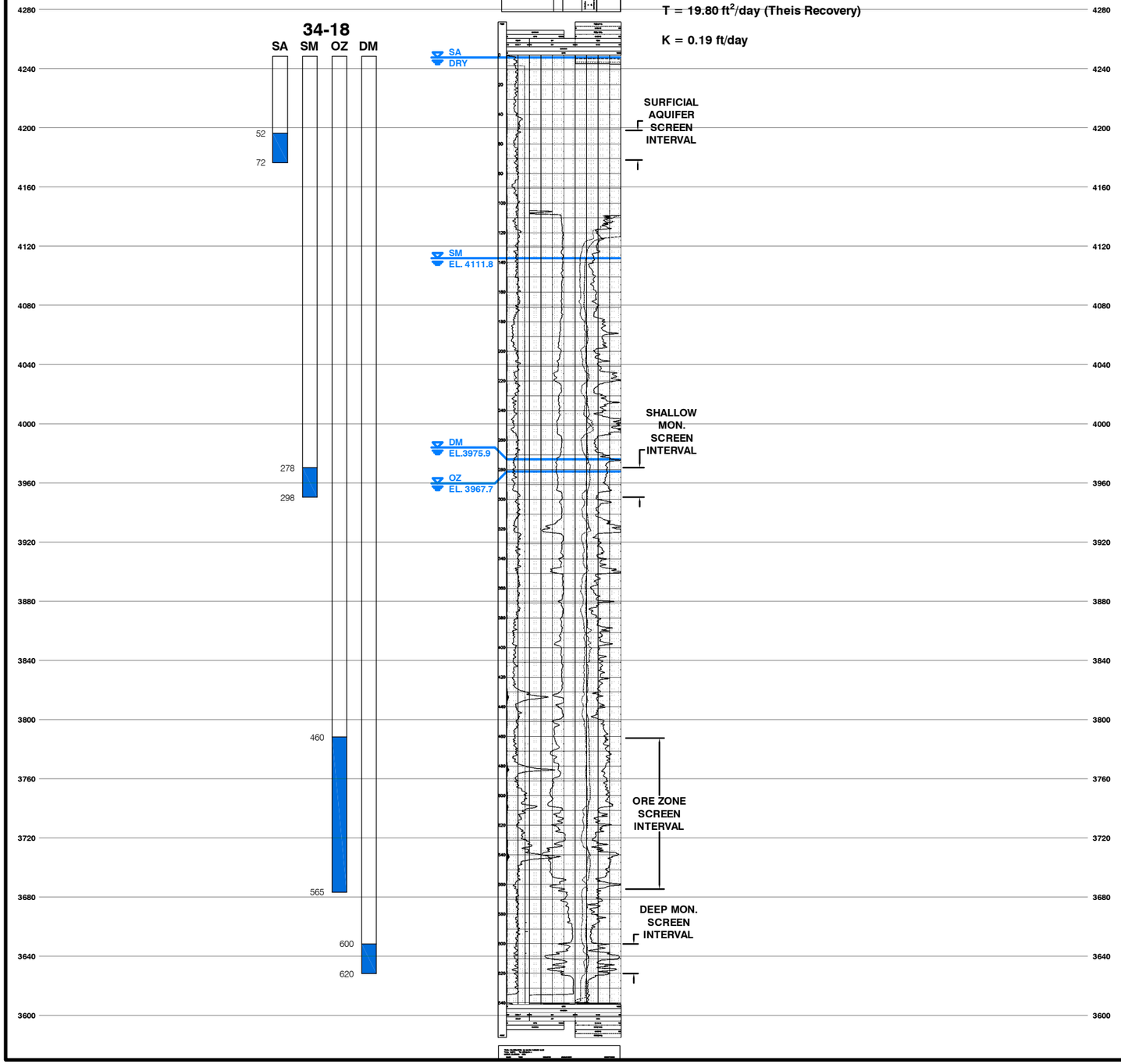
34-18 DM
SRV. EL. 4248.3

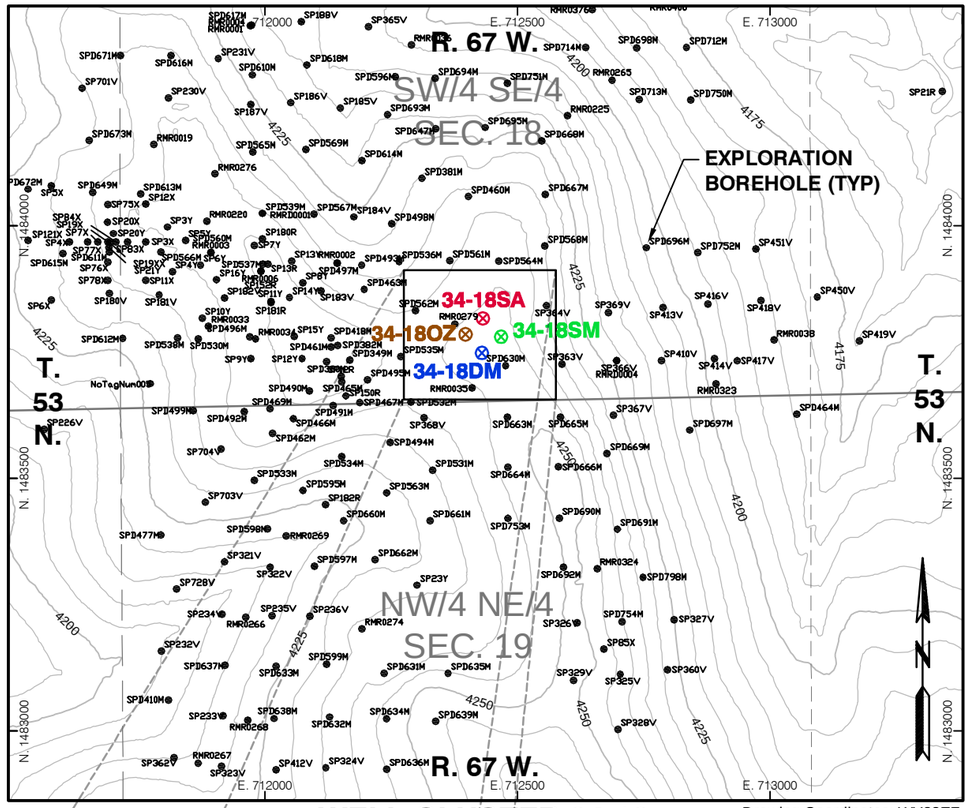
AQUIFER TEST DATA, WELL 34-18 OZ
24-hr PUMPING TEST
JULY 12-13, 2010

Q = 5.30 gpm

T = 19.80 ft²/day (Theis Recovery)

K = 0.19 ft/day



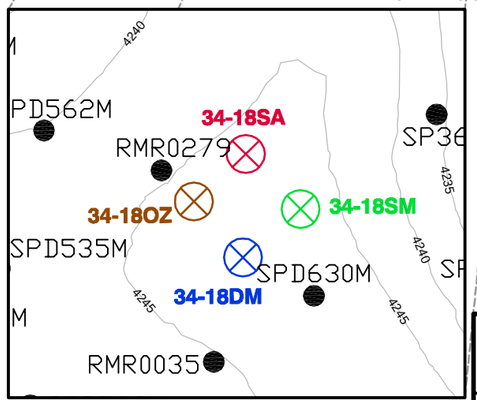


WELL CLUSTER 34-18

0 150 300 600

GRAPHIC SCALE (FEET)

Drawing Coordinates: WY83EF



DETAIL

0 50 100 200

GRAPHIC SCALE (FEET)

SA EL. SM EL. OZ EL. DM EL.

WATER LEVEL ELEVATIONS IN RESPECTIVE AQUIFER FROM JULY 2010 WATER LEVEL SURVEY

STRATA ENERGY

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REVISIONS

Date	Description

ADDENDUM 2.7-F
FIGURE 5

34-18 WELL CLUSTER LOCATION AND LAYOUT

Drawn By: RAM
Checked By: MJE
Date: 12/2/10

FILE: ROSS_ATR_OW_CL_34-18

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tested on July 12-13, 2010 by pumping the OZ well and observing responses in the pumping well, the overlying SM well, and the underlying DM well. The SA unit at this location is dry; therefore, well 34-18 SA was not monitored during the test.

4.3.2 Pumping Rate and Duration

The pumping phase of the constant rate test at the 34-18 well cluster was initiated at 1332 hours on July 12 and ended on July 13 at 1332 hours, for a total duration of 1,440 minutes, or 24 hours. The time-weighted average discharge rate for 24 hours was 5.3 gpm. A Dole flow control valve rated at 6 gpm was utilized to assist in maintaining a constant discharge rate. Field data sheets and time-drawdown plots are presented in Appendix 3.

4.3.3 Well Responses

The drawdown and recovery plot for the pumped well, 34-18 OZ, and the hydrographs of wells 34-18 SM and 34-18 DM are included in Appendix 3. Total drawdown in the pumped well was 64.33 feet. No drawdown response from pumping was observed in the SM well, while the hydrograph for the DM well depicts an apparent drawdown. As can be seen on well 34-18 DM's annual hydrograph (included in Addendum 2.7-G), the water level prior to and after the pumping period was declining at a relatively steady rate. During the pumping period, a total drawdown of approximately 0.25 foot was observed in well 34-18 DM. Neither the duration of time after pumping began for the water level to respond, nor the amount of drawdown attributable to pumping can be clearly distinguished from the DM well's hydrograph (included in Appendix 4). Approximately 2 hours after the pumping ended, the drawdown trend reversed and the water level recovered approximately 0.10 foot over a 6-hour period, remained steady for roughly another 24 hours, then resumed the same rate of decline observed prior to pumping. Since the water level changes illustrated by well 34-18 DM's hydrograph in Appendix 3 apparently corresponds with the timing of the pumping test, there is a possibility that the measured water level changes were in response to pumping the overlying OZ aquifer. Because the DM water level at this site was declining prior to and following the pumping period, it is likely that not all of the 0.25 foot of decline was in response to pumping.

There are a number of unplugged exploration boreholes in proximity to the 34-18 well cluster (Figure 5), some of which penetrate the DM interval. As discussed in Section 3.1.1, Strata did not plug all exploration holes in the

vicinity of this monitoring well cluster prior to conducting the aquifer test. Therefore, the apparent drawdown observed in the DM well may be attributed to the compromised integrity of the shale layer (Lower Confining Unit) between the OZ and DM screened intervals caused by unplugged exploration holes.

4.3.4 Determination of Aquifer Parameters

The time-drawdown data from the pumped well, 34-18 OZ, were analyzed using the Cooper-Jacob drawdown method and the Theis recovery method. Aquifer parameters measured in well 34-18 OZ are summarized in Table 3, and the analyses are presented in Appendix 3. Transmissivity estimates are similar between the Cooper-Jacob drawdown and Theis recovery methods; however, the recovery data are not affected by well entrance losses, and therefore likely to be more representative of actual aquifer conditions.

4.4 14-18

4.4.1 Well Location and Completion Intervals

The 14-18 well cluster is located in the SW¼ SW¼ of Section 18, T53N, R67W as depicted on Figure 1. The well cluster consists of one well each completed in the SA, SM, OZ and DM monitoring intervals. Figure 6 depicts the distances between wells and the type log at that location with respective completion intervals and water level elevations. The 14-18 well cluster was tested on July 13-14, 2010 by pumping the OZ well and observing responses in the pumping well, the overlying SA and SM wells, and the underlying DM well.

4.4.2 Pumping Rate and Duration

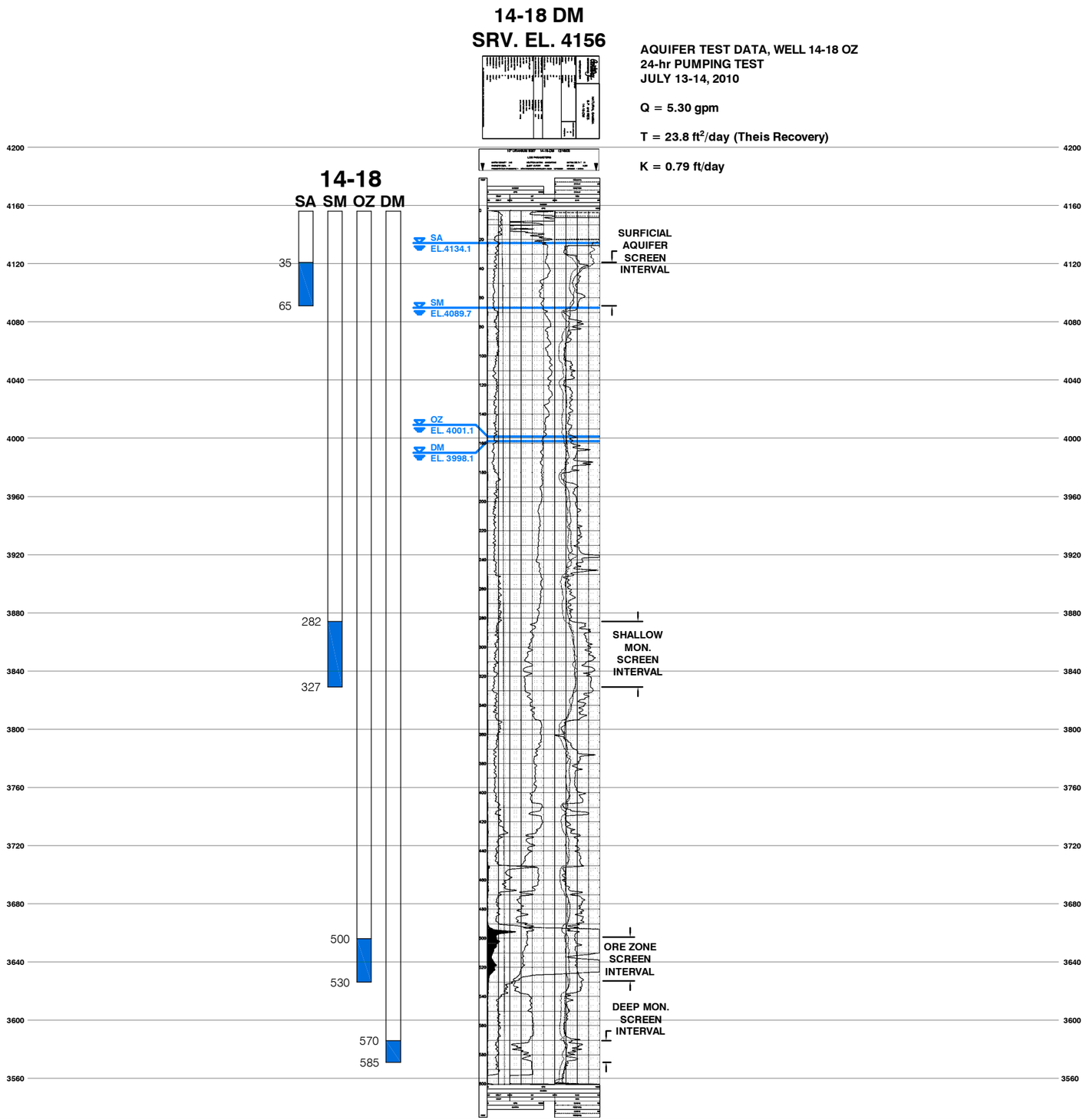
The pumping phase of the constant rate test at the 14-18 well cluster was initiated at 1436 hours on July 13 and ended on July 14 at 1436 hours, for total duration of 1,440 minutes, or 24 hours. The time-weighted average discharge rate for 24 hours was 5.3 gpm. A Dole flow control valve rated at 6 gpm was utilized to assist in maintaining a constant discharge rate. Field data sheets and time-drawdown plots are presented in Appendix 4.

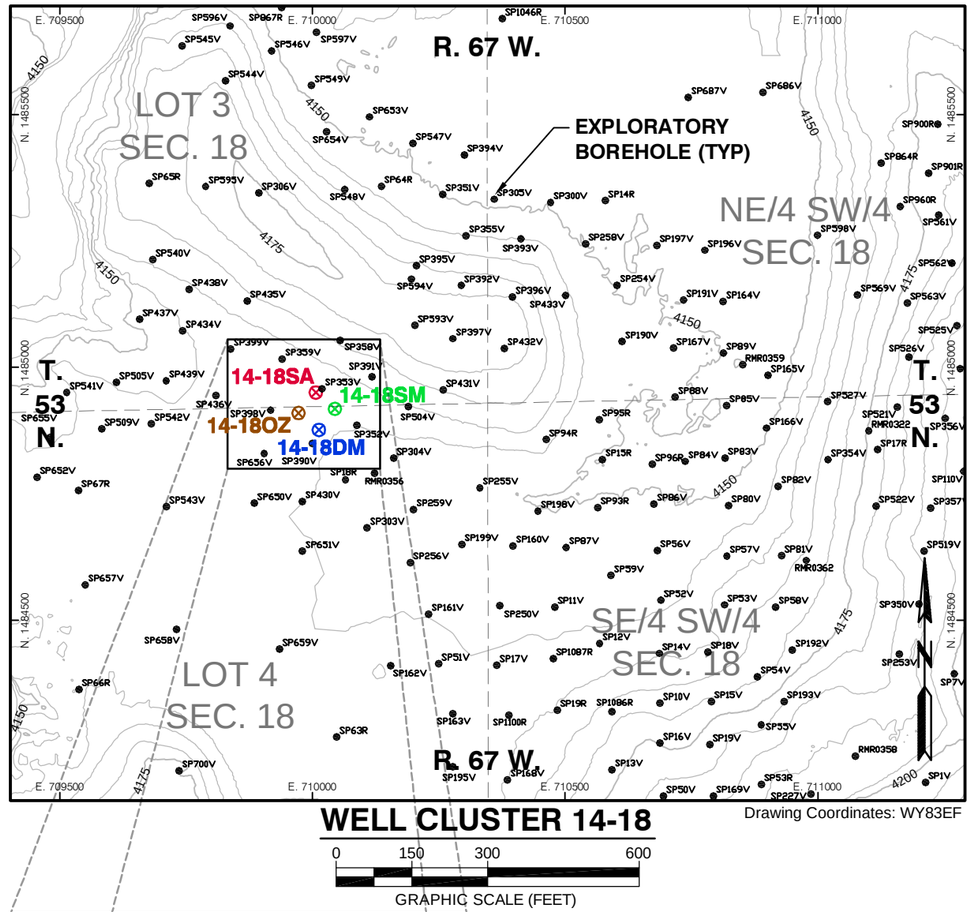
4.4.3 Well Responses

The drawdown and recovery plot for the pumped well, 14-18 OZ, and the hydrographs of wells 14-18 SM and 14-18 DM are included in Appendix 4. Total drawdown in the pumped well was 117.21 feet. No drawdown response from pumping was observed in the SM well, while the hydrograph for the DM

well depicts an apparent drawdown. As can be seen on well 14-18 DM's annual hydrograph (included in Addendum 2.7-G), the water level prior to and after the pumping period was rising at a relatively steady rate. During the pumping period, a total drawdown of approximately 0.20 foot was observed in well 14-18 DM. The response to pumping was almost immediate. Likewise, the drawdown ceased and the water level began to recover almost immediately when the pumping ended. The rate of recovery was more rapid immediately following the pumping period, then resumed the same rate of increase observed prior to pumping. Since the water level changes illustrated by well 14-18 DM's hydrograph in Appendix 4 apparently corresponds with the timing of the pumping test, there is a good possibility that the measured water level changes were in response to pumping the overlying OZ aquifer. Because the DM water level at this site was rising prior to and following the pumping period at a somewhat constant rate, it is likely that more than 0.20 foot of drawdown was in response to pumping.

Similar to the 34-18 well cluster, there are a number of unplugged exploration boreholes in proximity to the 14-18 well cluster, some of which penetrate the DM interval. As discussed in Section 3.1-1, Strata did not plug all exploration holes in the vicinity of this monitoring well cluster prior to conducting the aquifer test. Therefore, the apparent minor drawdown



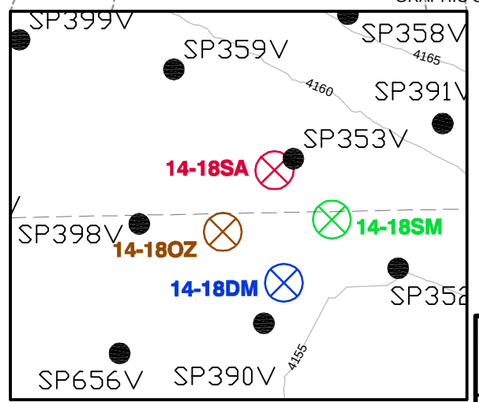


WELL CLUSTER 14-18

0 150 300 600

GRAPHIC SCALE (FEET)

Drawing Coordinates: WY83EF



DETAIL

0 50 100 200

GRAPHIC SCALE (FEET)

SA EL. SM EL. OZ EL. DM EL.

WATER LEVEL ELEVATIONS IN RESPECTIVE AQUIFER FROM JULY 2010 WATER LEVEL SURVEY

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ADDENDUM 2.7-F
FIGURE 6

14-18 WELL CLUSTER LOCATION AND LAYOUT

Drawn By: RAM
Checked By: MJE
Date: 12/2/10

FILE: ROSS_ATR_OW_CL_14-18

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observed in the DM well may be attributed to a compromised Lower Confining Unit within the radius of influence.

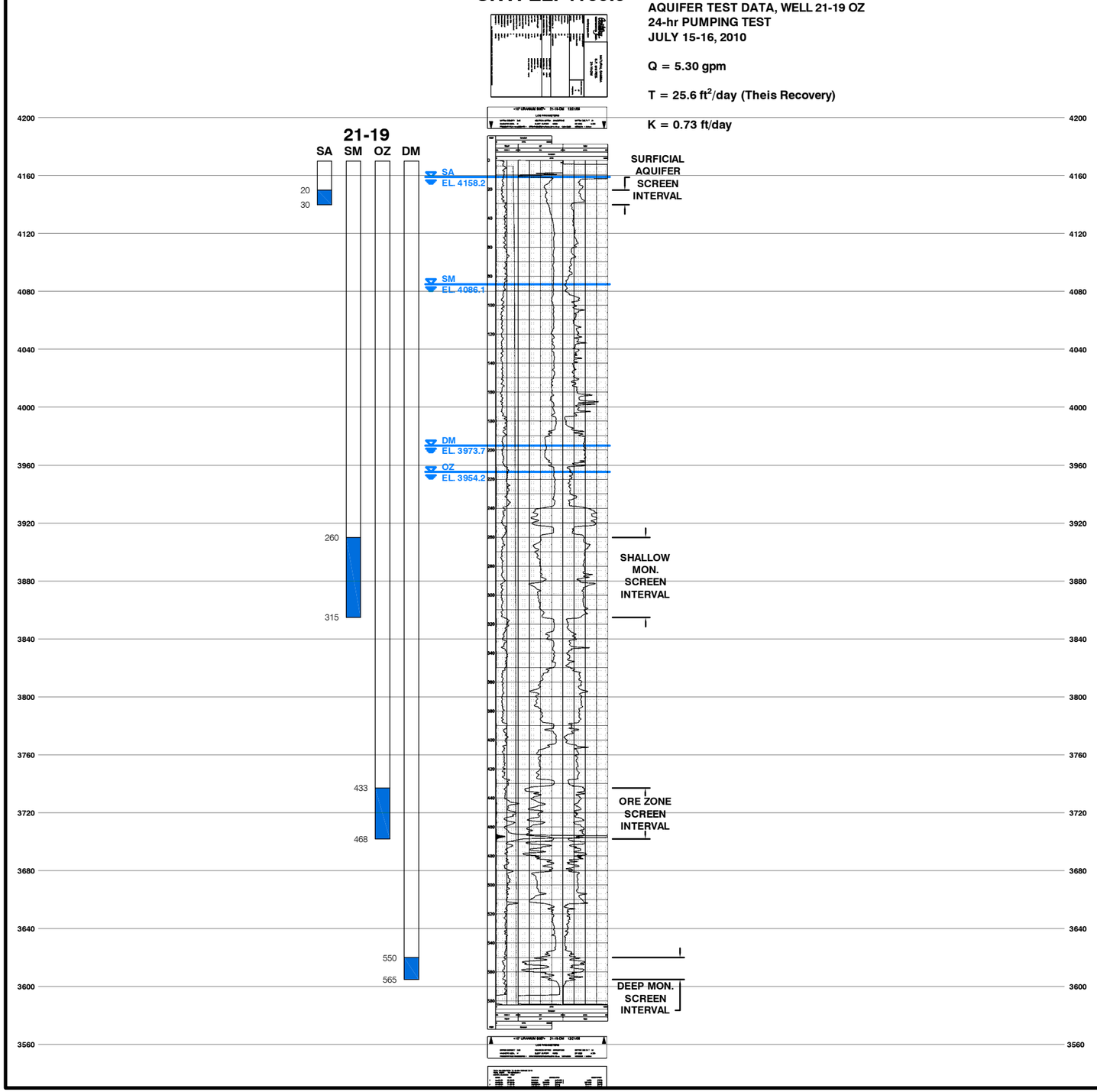
4.4.4 Determination of Aquifer Parameters

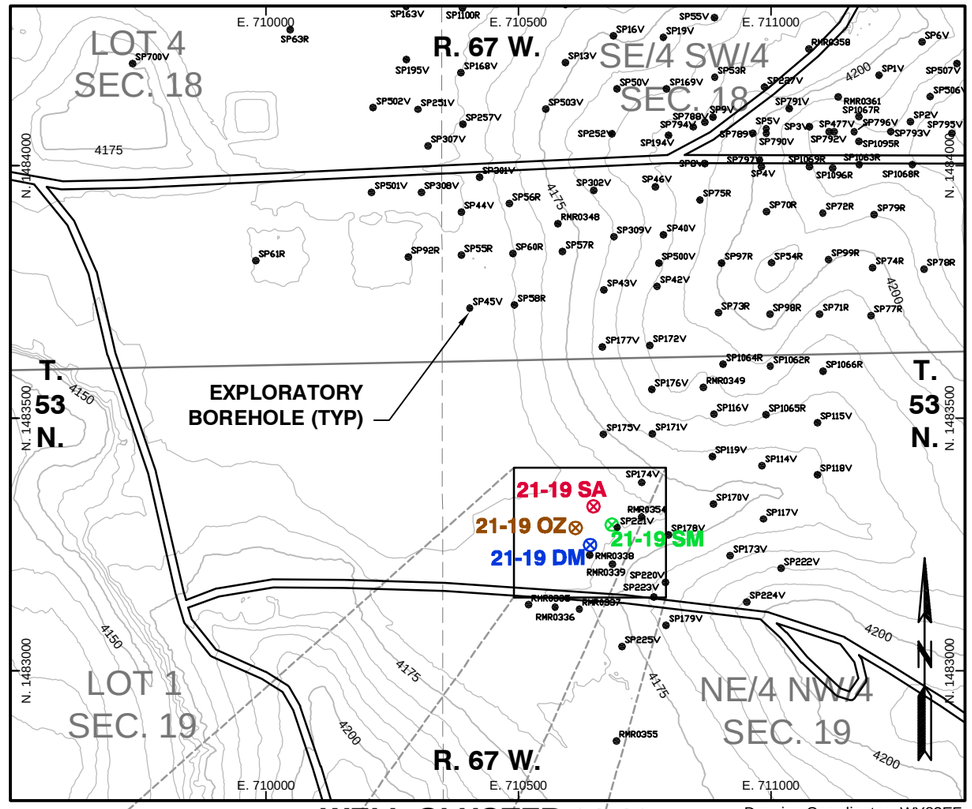
The time-drawdown data from the pumped well, 14-18 OZ, were analyzed using the Cooper-Jacob drawdown method and the Theis recovery method. Aquifer parameters measured in well 14-18 OZ are summarized in Table 3, and the analyses are presented in Appendix 4. The transmissivity estimated by the Cooper-Jacob drawdown method is significantly lower (by a factor of 6) from that determined by the Theis recovery method. The Theis method results are believed to be more representative of actual aquifer conditions. The exact cause of the discrepancy between the transmissivity values measured by the Cooper-Jacob and the Theis methods is most likely related to low well efficiency, which results in excess drawdown. The factors contributing to low well efficiency are either design or construction related. The time-recovery data and Theis recovery analysis for a pumping well is considered more accurate than the time-drawdown data and Cooper-Jacob drawdown analysis because well efficiency is not a factor. The efficiency of pumped well 14-18 OZ was not determined. Well efficiency cannot be determined without the existence of time-drawdown data from a nearby monitoring well completed in the same interval.

4.5 21-19

4.5.1 Well Locations and Completion Intervals

The 21-19 well cluster is located in the NE¼ NW¼ of Section 19, T53N, R67W as depicted on Figure 1. The well cluster consists of one well each completed in the SA, SM, OZ and DM monitoring intervals. Figure 7 depicts the distances between wells and the type log at that location with respective completion intervals and water level elevations. The 21-19 well cluster was tested on July 15-16, 2010 by pumping the OZ well and observing responses in the pumping well, the overlying SM well, and the underlying DM well.



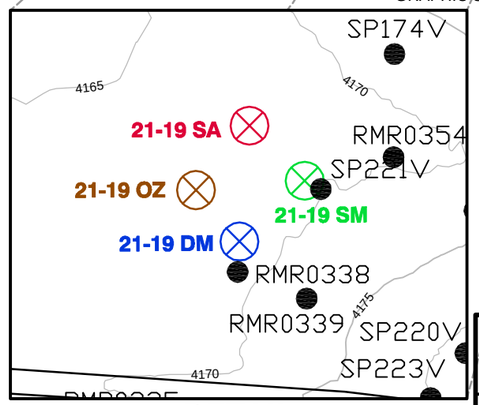


Drawing Coordinates: WY83EF

WELL CLUSTER 21-19

0 150 300 600

GRAPHIC SCALE (FEET)



DETAIL

0 50 100 200

GRAPHIC SCALE (FEET)

SA EL. SM EL. OZ EL. DM EL.

WATER LEVEL ELEVATIONS IN RESPECTIVE AQUIFER FROM JULY 2010 WATER LEVEL SURVEY

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REVISIONS

Date	Description

ADDENDUM 2.7-F
FIGURE 7

21-19 WELL CLUSTER LOCATION AND LAYOUT

Drawn By: RAM
Checked By: MJE
Date: 12/2/10

FILE: ROSS_ATR_OW_CL_21-19

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4.5.2 Pumping Rate and Duration

The pumping phase of the constant rate test at the 21-19 well cluster was initiated at 0950 hours on July 15 and ended on July 16 at 1010 hours, for a total duration of 1,460 minutes, or 24 hours and 20 minutes. The time-weighted average discharge rate through the entire test was 5.3 gpm. A Dole flow control valve rated at 6 gpm was utilized to assist in maintaining a constant discharge rate. Field data sheets and time-drawdown plots are presented in Appendix 5.

4.5.3 Well Responses

The drawdown and recovery plot for the pumped well, 21-19 OZ, and the hydrographs of well 21-19 SM and 21-19 DM are included in Appendix 5. Total drawdown in the pumped well was 42.88 feet. No drawdown responses were observed in the SA, SM or DM wells.

4.5.4 Determination of Aquifer Parameters

The time-drawdown data from the pumped well, 21-19 OZ, were analyzed using the Cooper-Jacob drawdown method and the Theis recovery method. Aquifer parameters measured in well 21-19 OZ well are presented in Table 3, and the analyses are presented in Appendix 5. The transmissivity estimated by the Cooper-Jacob drawdown method is slightly higher than that determined using the Theis recovery method. As discussed previously, the transmissivity value determined using the time-drawdown data and Cooper-Jacob drawdown method is considered less accurate than by using the time-recovery data and Theis recovery method due to factors affecting well efficiency.

4.6 12-18

4.6.1 Well Locations and Completion Intervals

The 12-18 well cluster is located in the SW¼ NW¼ of Section 18, T53N, R67W as depicted on Figure 1. The well cluster consists of one well each completed in the SA, SM, and DM monitoring intervals, with three additional observation

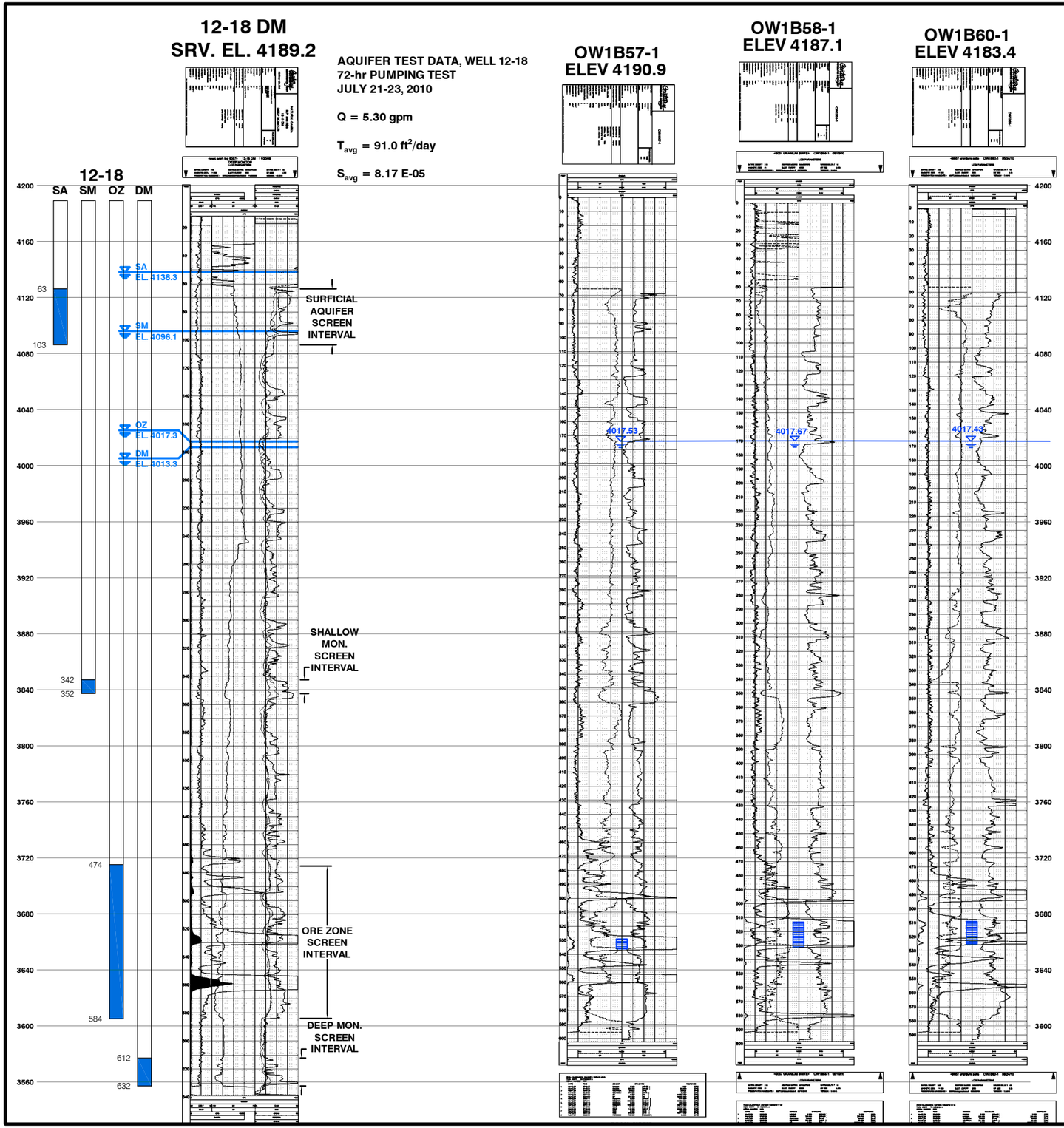
wells that partially penetrate the ore zone. This site was selected for more comprehensive testing because ISR mining will most likely be initiated near this site upon permit approval. The entire well cluster is depicted in detail on Figure 8, which shows the distances between wells and the geophysical borehole logs with respective well completion intervals and water level elevations. The 12-18 well cluster was tested on July 21-24, 2010 by pumping the OZ well and observing responses in the pumping well, the overlying SA and SM wells, the OZ partial penetration wells (OW1B57-1, OW1B58-1, and OW1B60-1), and the underlying DM well.

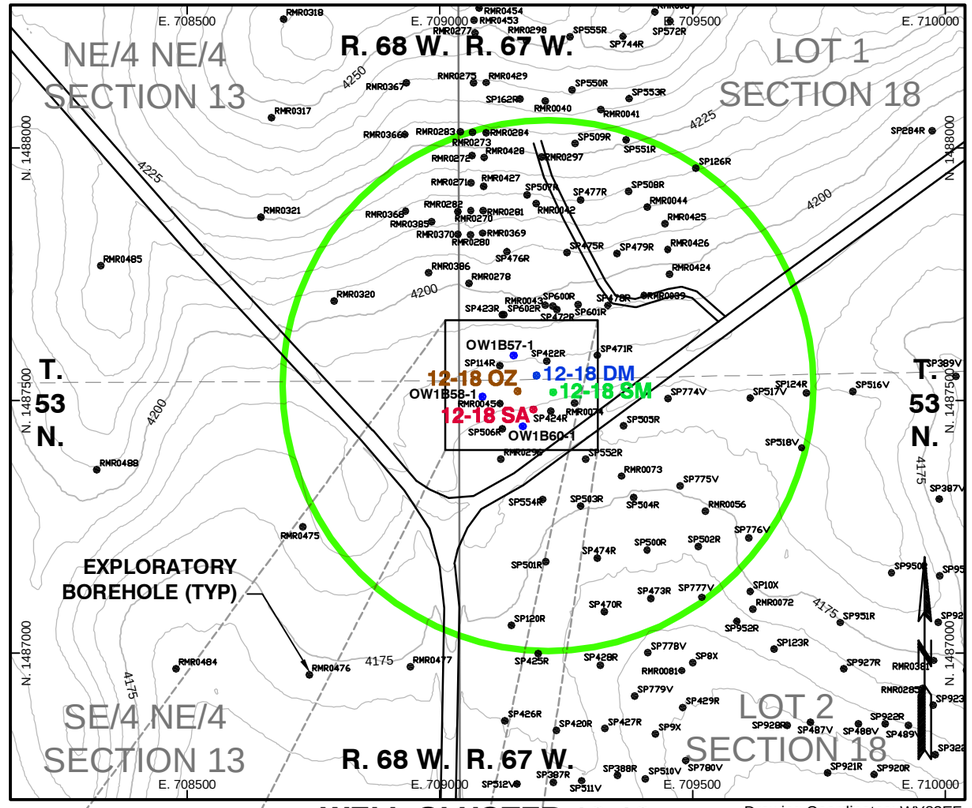
The 12-18 OZ well fully penetrates the OZ aquifer at this site, while observation wells OW1B57-1, OW1B58-1, and OW1B60-1 were completed as partially penetrating wells that target specific roll front sands. These observation wells were located approximately 70 feet from the pumping well, and were spaced to replicate mining conditions. As discussed in Section 3.1.1, some 55 exploration boreholes within a 522-foot radius of well 12-18 OZ were located, reentered and cemented from the bottom up to ensure no interference from unplugged boreholes.

4.6.2 Pumping Rate and Duration

The pumping phase of the constant rate test at the 12-18 well cluster was initiated at 0921 hours on July 21 and ended on July 24 at 1000 hours, for a total duration of 4,359 minutes, or 72 hours and 39 minutes. The time-weighted average discharge rate through the entire test was 5.3 gpm. A Dole flow control valve rated at 6 gpm was utilized to assist in maintaining a constant discharge rate. Field data sheets and time-drawdown plots are presented in Appendix 6.

This is the first of two tests that were conducted by Strata at the 12-18 well cluster.



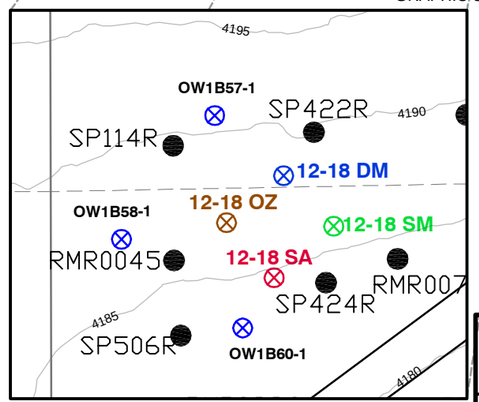


WELL CLUSTER 12-18

0 150 300 600

GRAPHIC SCALE (FEET)

Drawing Coordinates: WY83EF



DETAIL

0 50 100 200

GRAPHIC SCALE (FEET)

ALL EXPLORATORY BOREHOLES WITHIN THIS AREA WERE LOCATED AND CEMENTED FROM TOTAL DEPTH TO SURFACE

SA EL. SM EL. OZ EL. DM EL.

WATER LEVEL ELEVATIONS IN RESPECTIVE AQUIFER FROM JULY 2010 WATER LEVEL SURVEY

STRATA ENERGY

ROSS ISR PROJECT
CROOK COUNTY, WY
P.O. BOX 2318
GILLETTE, WY 82716

REVISIONS

Date	Description

ADDENDUM 2.7-F
FIGURE 8

12-18 WELL CLUSTER LOCATION AND LAYOUT

Drawn By: RAM
Checked By: MJE
Date: 12/2/10

FILE: ROSS_ATR_OW_CL_12-18

WWC ENGINEERING
www.wwcengineering.com

K:\Peninsula_Minerals\09142\DWGS_WY83E\ROSS_ATR_OW_CL_12-18.dwg, TRA_2.7-F_FIGURE_8, 12/13/2010 1:18:39 PM

4.6.3 *Well Responses*

The drawdown and recovery plots for the pumped well, 12-18 OZ, and the partial penetration wells, OW1B57-1, OW1B58-1, and OW1B60-1, are included in Appendix 6. The hydrographs of wells 12-18 SA, 12-18 SM and 12-18 DM are also included in Appendix 6. Total drawdown in the pumped well was 21.99 feet. No drawdown responses from pumping were observed in the SA, SM or DM wells. Drawdown response in the partial penetration observation wells began immediately upon initiation of pumping, with 5.61 feet of total drawdown measured in well OW1B57-1, 7.15 feet of total drawdown measured in well OW1B58-1, and 7.11 feet of total drawdown measured in well OW1B60-1 (Table 2).

4.6.4 *Determination of Aquifer Parameters*

The time-drawdown data from the pumped well, 12-18 OZ, were analyzed using the Cooper-Jacob drawdown method and the Theis recovery method. The time-drawdown data from the partially penetrating observation wells, OW1B57-1, OW1B58-1 and OW1B60-1, were analyzed using the Cooper-Jacob drawdown method, the Hantush (1961) method for confined partially penetrating wells, and the Theis recovery method. The Cooper-Jacob method was valid (where u in the Theis nonequilibrium well equation is less than 0.01) after 266 minutes in observation well OW1B57-1, 114 minutes in well OW1B58-1, and 122 minutes in well OW1B60-1. Aquifer parameters measured in pumping well 12-18 OZ and observation wells OW1B57-1, OW1B58-1 and OW1B60-1 are presented in Table 3, and the analyses are presented in Appendix 6.

The transmissivity estimated for the pumping well by the Cooper-Jacob drawdown method is somewhat higher than that determined using the Theis recovery method. As discussed previously, the transmissivity value determined by the time-drawdown data and the Cooper-Jacob drawdown method (116.9

ft^2/day) is considered less accurate than the time-recovery data and the Theis recovery method (70.8 ft^2/day) due to factors affecting well efficiency.

The transmissivity values estimated for the three partially penetrating observation wells using the time-drawdown data and the Cooper-Jacob and Hantush methods are all similar and comparable to the transmissivity values determined by using the recovery data and Theis recovery method. Furthermore, transmissivities determined for the three partial penetration observation wells are also comparable to the transmissivity determined for the pumping well, ranging from a low of 84.5 ft^2/day to a high of 102.2 ft^2/day, with a median of 88.2 ft^2/day.

Storativity values determined by the Cooper-Jacob and Hantush analyses using time-drawdown data from the three observation wells were appropriate for a confined aquifer, ranging from 1.5 x 10^{-4} (dimensionless) to 6.2 x 10^{-5}, with a median value of 6.2 x 10^{-5}.

4.7 OW1B57-1

The second aquifer test at the 12-18 well cluster was performed by pumping partial penetration well OW1B57-1 and observing responses in the pumping well, the other two partial penetration wells (OW1B58-1 and OW1B60-1), the fully penetrating OZ well, the overlying SA and SM wells, and the underlying DM well. Well OW1B57-1, which is completed within a 7-foot thick sand that targets a specific uranium roll front, was pumped for 24 hours in order to collect additional data, including that which would provide the calculation of vertical and horizontal anisotropy within the ore zone interval.

4.7.1 Pumping Rate and Duration

The pumping phase of the second constant rate test at the 12-18 well cluster was initiated at 1205 hours on July 27 and ended on July 28 at 1209 hours, for a total duration of 1444 minutes, or 24 hours and 4 minutes. The time-weighted average discharge rate through the entire test was 5.66 gpm. Field data sheets and time-drawdown plots are presented in Appendix 7.

4.7.2 Well Responses

The drawdown and recovery plots for the pumped well, OW1B57-1, the partial penetration wells, OW1B58-1 and OW1B60-1, and well 12-18 OZ are included in Appendix 7. The hydrographs of wells 12-18 SA, 12-18 SM and 12-18 DM are also included in Appendix 7. Total drawdown in the pumped well was 48.21 feet. Drawdown in the pumping well essentially ceased after approximately 200 minutes. No drawdown responses from pumping were observed in the SA, SM or DM wells. Drawdown response in the ore zone observation wells began immediately upon the initiation of pumping, with 5.05 feet of the total drawdown measured in well 12-18 OZ, 5.03 feet of total drawdown measured in OW1B58-1, and 6.18 feet of total drawdown measured in OW1B60-1. Drawdown response in the ore zone observation wells continued throughout the entire pumping phase of the test (Table 3).

4.7.3 Determination of Aquifer Parameters

The open interval (an underreamed borehole having no well screen) for the pumping well, OW1B57-1, targets a 7-foot thick sandstone in the ore zone aquifer. Based on the electric logs of this well, this 7-foot sandstone interval is the lower portion of a 25-foot thick sandstone within the ore zone unit that is bound above and below by shales. As stated above, over 48 feet of drawdown occurred in the pumped well during the first two hours of the test, and after approximately 200 minutes of pumping at a rate of 5.66 gpm, high vertical leakage from above the open interval essentially equaled the pumping rate and drawdown effectively stopped. Therefore, the Cooper-Jacob straight line drawdown method of analysis is not considered valid for this test. The recovery data from the pumping well were analyzed using the Theis recovery method.

The time-drawdown data from the partially penetrating observation wells, OW1B58-1 and OW1B60-1, were analyzed using the Cooper-Jacob drawdown method, the Hantush method for confined partially penetrating wells, and the Theis recovery method. The time-drawdown data from the fully penetrating observation well, 12-18 OZ, were analyzed using the Cooper-Jacob drawdown

method, the Theis (1935) drawdown method, and the Theis recovery method. The Cooper-Jacob method was valid (where u in the Theis nonequilibrium well equation is less than 0.01) after 172 minutes in well 12-18 OZ, 118 minutes in well OW1B58-1, and 102 minutes in well OW1B60-1.

The transmissivity determined for the pumping well using only the recovery data is 80.3 ft^2/day. The transmissivity determined for the two partially penetrating observation wells using the Cooper-Jacob and Hantush methods are all similar and comparable to the transmissivity values determined using the Theis recovery method. Those values range from 92.7 - 137.1 ft^2/day, with a median of 103.6 ft2/day. The transmissivity determined for the fully penetrating OZ well using both drawdown and recovery data are also very similar and comparable to the transmissivity values determined for the partial penetration wells. Those values range from 93.2 ft^2/day to 105.6 ft^2/day.

Storativity values determined by the Cooper-Jacob, Hantush, and Theis analyses using time-drawdown data from the three observation wells were appropriate for a confined aquifer, ranging from 1.0×10^{-4} to 4.0×10^{-6}, with a median value of 2.4×10^{-5}.

Aquifer parameters measured in the pumping well OW1B57-1 and observation wells OW1B58-1, OW1B60-1 and 12-18 OZ are summarized in Table 3, and the analyses are presented in Appendix 7.

Vertical anisotrophy within the ore zone aquifer was determined at the 12-18 well cluster using the Hantush (1961) solution method for partially penetrating wells. Time-drawdown data from each of the partially penetrating observation wells were analyzed using the Hantush (1961) method, which is included in the Aquifer^{Win32} (ESI 2003) software. Hantush type curves are based on site-specific well construction information and aquifer thickness. Aquifer^{Win32} optimizes the K_z/K_r (where K_z is the effective vertical hydraulic conductivity and K_r is the effective horizontal hydraulic conductivity) type curve match. The Hantush analysis plots for both aquifer tests conducted at the 12-

18 well cluster are included in Appendices 6 and 7. Hantush solution plots of the drawdown data from all of the partially penetrating observation wells, for both pumping tests, followed the $K_z/K_r = 1.0$ type curve, indicating the effective vertical and horizontal hydraulic conductivities are essentially equal.

Horizontal anisotropy within the ore zone aquifer was also measured at the 12-18 well cluster, using the method described by Masila and Randolph (1987). This method uses a least squares approximation described by Neuman and others (1984) to resolve the tensor of transmissivity. Based on the data collected at the 12-18 site, the ore zone is slightly anisotropic, with an anisotropy ratio of approximately 2.6:1. The direction of major transmissivity is to the north 22° east with T_{major} = 152 ft²/day and a T_{minor} of 58 ft²/day. Figure 9 depicts the 12-18 well cluster and the major and minor transmissivity axes. Additional discussion on horizontal anisotropy within the ore zone aquifer is included in Addendum 2.7-H (Groundwater Model) in the TR.

4.8 Laboratory Core Analysis

Core samples from hole number 477V were selected by Nubeth for measurement of intrinsic permeability in the laboratory (Hamilton 1977), while samples from six cores (hole numbers RMRD 0001 through RMRD 0004, RMD0006, and RMD0007) recovered from within the proposed Ross Project area were selected by Strata in 2009 and 2010 for measurement of intrinsic permeability in the laboratory. The intrinsic permeability, in millidarcies (mD), and porosity values measured in the laboratory for samples selected from these seven core holes are tabulated in Appendix 9. Intrinsic permeability is a property of the core material (rock) only and does not include any fluid physical properties (e.g., viscosity). Intrinsic permeability, in mD, is converted to hydraulic conductivity, in ft/day, using various fluid properties of the site groundwater and the gravitational constant. The corresponding hydraulic conductivity values are included in Appendix 9.

Core sample data tabulated in Appendix 9 are grouped according to lithology type. A total of 24 sandstone samples, 5 siltstone samples, 11 shale

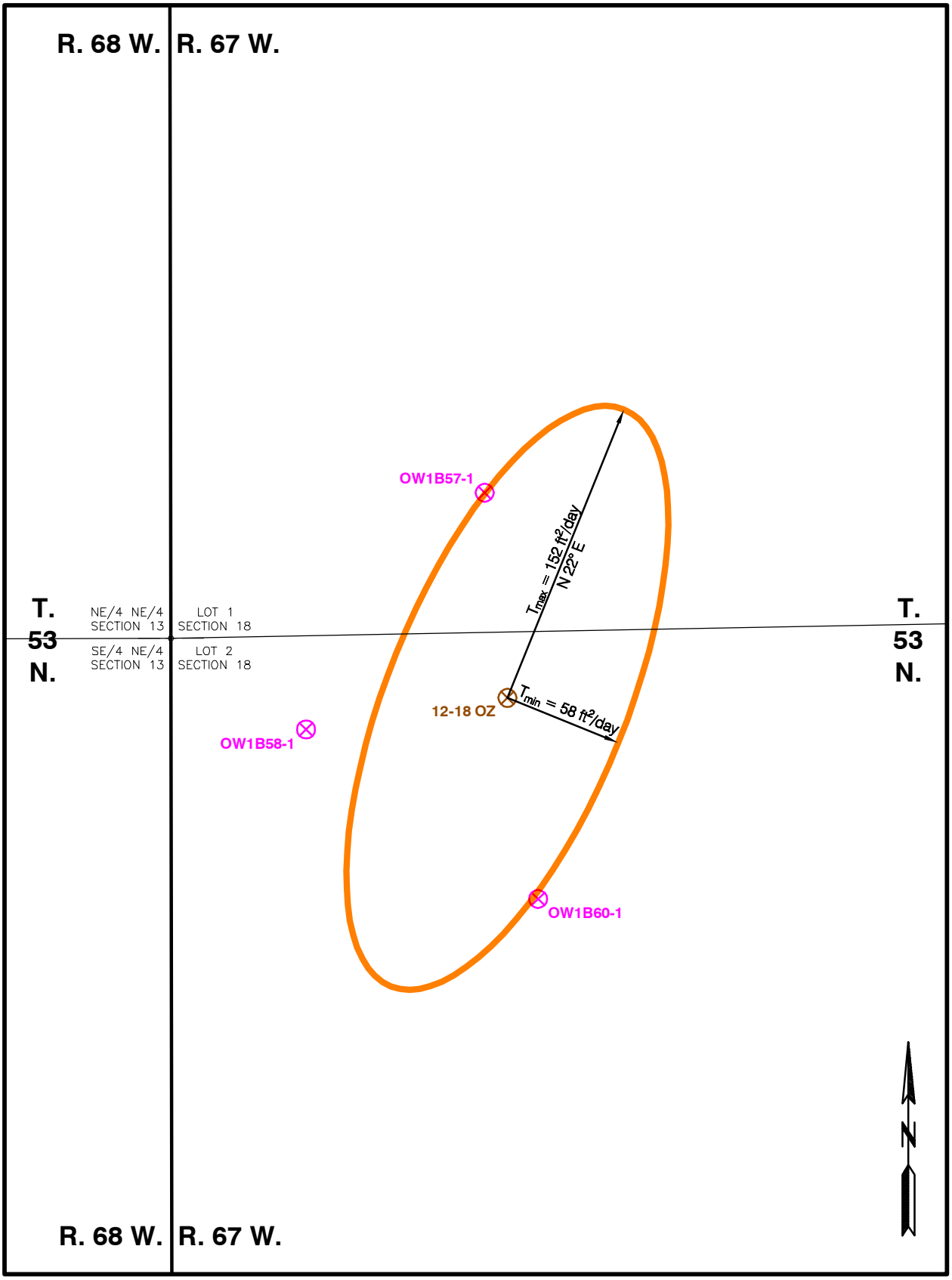


Figure 9. Ellipsoid of Anisotropy Depicting Direction and Magnitude of Major and Minor Direction of Transmissivity about the 12-18 OZ Well.

samples, 7 shale/sandstone mix samples, 5 sandstone/siltstone samples, and 1 cemented sandstone sample were analyzed for horizontal and/or vertical permeabilities.

Analysis of the sandstone core samples indicate that the horizontal hydraulic conductivity ranges from 2.4 to 11.9 ft/day, with an average (arithmetic mean) of 5.1 ft/day. Vertical hydraulic conductivities of the sandstone samples are, on the average, about two-thirds (68 percent) of the horizontal values, ranging from 0.4 to 6.0 ft/day and averaging 3.5 ft/day. The ratio of vertical to horizontal hydraulic conductivity (K_v/K_h) for the sandstone units ranges from 0.09 to 0.99.

Analysis of the siltstone core samples indicate that the horizontal hydraulic conductivity ranges from about 0.1 to 0.7 ft/day, with an average of approximately 0.33 ft/day. Vertical hydraulic conductivities of the siltstone samples are, on the average, about 47 percent of the horizontal values, ranging from about 0.03 to 0.46 ft/day and averaging around 0.16 ft/day. The K_v/K_h ratio for the siltstone units ranges from 0.05 to 0.88.

Analysis of the shale core samples indicate that the horizontal hydraulic conductivity ranges from 0.007 to 0.163 ft/day, with an average of 0.074 ft/day. Vertical hydraulic conductivities of the shale samples are, on the average, about 4 percent of the horizontal values, ranging from essentially zero to 0.01 ft/day and averaging around 0.003 ft/day. The K_v/K_h ratio for the shale units ranges from essentially zero to 0.29.

From the core analyses data, the average horizontal hydraulic conductivities, ranging from highest to lowest, are: 5.10 ft/day for sandstone, 1.17 ft/day for sandstone/siltstone mix, 0.81 ft/day for shale/sandstone mix, 0.33 ft/day for siltstone, and 0.07 ft/day for shale. In conclusion, the shale unit aquitards have horizontal hydraulic conductivities several orders of magnitude lower than the hydraulic conductivities of the ore zone sandstone units. In addition, the very low vertical hydraulic conductivities of the shales,

some being less than 0.001 ft/day, are a measure of the degree of groundwater confinement that the shale units provide.

In addition, the intrinsic permeability values and corresponding hydraulic conductivity values determined in the laboratory for the sandstones are comparable to the permeabilities determined from the aquifer test transmissivities. While this is an important conclusion, it should be noted that the intrinsic permeability measured in the laboratory is of only a very small, site-specific sample of the material in question. The intrinsic permeability determined from a core sample is therefore not a spatial average of a heterogeneous block of material. Conversely, an aquifer pumping test results in a value representing a much larger volume of material. The most accurate and reliable method for determining the permeability of a rock mass is by an aquifer test performed under in situ conditions. Due to the discontinuous and interbedded characteristics of the sandstones within the ore zone unit, with increased thickness and area the more variable and anisotropic the ore zone aquifer's permeability becomes. Discrepancies between hydraulic conductivity determined from pumping test transmissivity and sandstone core results are likely due to different lithologies between the core and well screen intervals. Agreement between the laboratory and field pumping test hydraulic conductivity determinations are, however, reasonable.

5.0 SUMMARY AND CONCLUSIONS

This section summarizes the hydraulic characteristics of the ore zone aquifer within the proposed Ross Project area. A summary of the aquifer parameters for the Ross area as determined by aquifer pumping tests and laboratory core analyses follows:

- In July 2010, Strata conducted seven aquifer pump tests at six separate well clusters (Figure 1). A total of 32 determinations of transmissivity (Table 3) were made for the ore zone, ranging from a minimum 3.8 ft^2/day to a maximum of 367.6 ft^2/day with an average of 88.3 ft^2/day. Various aquifer test analysis methods were employed to analyze the time-drawdown and recovery data recorded during each

test, and the method(s) most representative of actual aquifer conditions are indicated as such.

- A total of 12 determinations of storativity (Table 3) were made for the ore zone from two separate pumping tests that were conducted at Strata's 12-18 well cluster (Figure 1). Storage coefficients are appropriate for a confined aquifer, ranging from 4.0×10^{-6} to 1.5×10^{-4} with a median of 6.1×10^{-5} and an average of 6.7×10^{-5}.

- Results of the previous aquifer tests conducted at the Ross site by Nubeth in 1977 and 1978 (Manera 1977 and 1978, Hamilton 1977) are comparable to the Strata test results. Transmissivity values fall within the same range (11 ft^2/day minimum to 29.4 ft^2/day maximum), as do the storativity values (1.4×10^{-4} to 5.8×10^{-5}).

- No effects from pumping were measured in any of the overlying SA or SM unit wells at the six well clusters. Water levels in two of the six underlying DM unit wells at the six well cluster sites may have declined slightly during pumping due to vertical leakage across the Lower Confining Unit via unplugged exploration drill holes located in close proximity to the respective well cluster. Prior to conducting the aquifer tests, all exploration drill holes in the vicinity of only the 12-18 well cluster were located and plugged to ensure that the confinement of the ore zone was not anthropogenically compromised by any open drill holes.

- Hydraulic conductivities determined from the aquifer test transmissivities ranged from 0.13 to 7.62 ft/day with a median of 3.55 ft/day and an average of 3.26 ft/day. These hydraulic conductivities are in the range of text book values for fine-grained sand, very fine-grained sand and silt (Bureau of Reclamation 1977).

- Laboratory measurements of horizontal and vertical hydraulic conductivity were made on core samples of the various lithology types in the Lance-Fox Hills formations. The measured horizontal hydraulic conductivity of the sandstone (ore zone unit) samples ranged from 2.4 to 11.9 ft/day and the average value was 5.1 ft/day. These values are comparable to those determined from the aquifer pumping tests. The ratio of K_v/K_h ranged from 0.09 to 0.99 and average 0.68.

- Laboratory measurements of horizontal and vertical hydraulic conductivity that were made on shale core samples indicate that the horizontal hydraulic conductivity ranges from 0.007 to 0.163 ft/day,

with an average of 0.074 ft/day. Vertical hydraulic conductivities of the shale samples are, on the average, about 4 percent of the horizontal values, ranging from essentially zero to 0.01 ft/day and averaging around 0.003 ft/day. The K_v/K_h ratio for the shale units ranges from essentially zero to 0.29.

Strata conducted these seven aquifer tests using state-of-the-art equipment and analyzed the time-drawdown data using the most advanced software available. The transmissivity and storativity values that were determined should therefore be considered precise and objective.

The specific capacity (a well's yield per unit of drawdown, typically measured as gpm/ft) of each of the pumping wells are given in Table 2. For the seven pumped wells, the specific capacities range from a high of 0.53 gpm/ft to a low of 0.05 gpm/ft. The amount of drawdown required to produce a particular yield is determined by the hydraulic nature of the aquifer, the well design, and/or the construction and development of the well. By definition, the less efficient a well is, the lower its specific capacity will be. Much care was taken by Strata to construct each of the cluster wells with the highest efficiency possible. However, well efficiency is believed to be a factor at one of the two pumping wells having the lowest specific capacity (well 14-18 OZ). Partial penetration wells will typically have a low efficiency because excessive drawdown will occur in a well with limited open area to the aquifer. In summary, a direct relationship exists between each of the wells' specific capacities and the aquifer's transmissivity determined by the drawdown measured at that respective well: the higher the specific capacity, the greater the transmissivity.

The hydraulic conductivity of the aquifer is typically calculated by dividing the transmissivity value by the well's screen length, assuming the well was constructed such that the intake zone is placed in exactly the same depth interval as the aquifer. Excluding the ore zone wells in the 12-18 well cluster, the hydraulic conductivity values for the ore zone at the other five well clusters were calculated by dividing the transmissivity by the ore zone well screen

length. It should be noted that the well screen length at each of these five ore zone wells may not necessarily represent the exact ore zone aquifer thickness due to the presence of interbedded, relatively impermeable shales within the perforation interval. These estimated hydraulic conductivity values are considered representative of the entire ore zone unit and are useful for a regional application, such as a groundwater flow model because they represent a composite or average value.

Hydraulic conductivity values at the 12-18 well cluster were calculated by dividing the pumping test transmissivities by the thickness of the aquifer and not the respective well's screen length. The aquifer thickness at each of the ore zone well locations was determined by referring to the respective well's boring lithologic log and electric log. As such, the aquifer thickness values were made with considerable certainty based on the intensive subsurface exploration that has been conducted in area. Nevertheless, aquifer thicknesses are considered to be judgment calls and the listed hydraulic conductivity values listed in Table 3 should therefore be considered subjective.

The Lance and Fox Hills formations in the Oshoto, Wyoming area are stratigraphically complex (Buswell 1982). The variable hydraulic characteristics of the ore zone sandstones, as determined by aquifer pump testing and laboratory core sample analyses, reflect the aquifer's complex and variable lithology. Furthermore, the variable hydraulic characteristics of the ore zone aquifer are directly related to the occurrence of uranium ore deposits in the area. Buswell (1982) described the development of uranium roll fronts as being governed primarily by the sediments' depositional environment, and that there is a relationship between sediment depositional patterns and roll front development. The permeable sandstones act as a conduit for groundwater movement downdip and downgradient, and the heterogeneous permeability of the host sandstones modified the migration of groundwater such that ore deposits formed in response to increased flow through the more permeable channel sands (Buswell 1982). The low permeability of interbedded sediments coupled with a higher incidence of organic and inorganic reductants

contributed to the precipitation and preservation of uranium in those areas (Buswell 1982). Uranium grade and thickness of roll front deposits is dependent upon the rate and volume of uranyl-bearing groundwater flow. Where large volumes of water were funneled into an alteration area, larger and higher grade ore deposits were formed. Conversely, roll fronts that have a small volume of groundwater flowing across the geochemical interface will produce discontinuous, low grade deposits (Buswell 1982).

The aquifer tests in 1977, 1978 and 2010 indicate that the ore zone is a confined aquifer. The laboratory core data for shale samples indicate extremely low permeabilities; horizontal hydraulic conductivities being several orders of magnitude lower than the hydraulic conductivities of the ore zone sandstone units. In addition, the very low vertical hydraulic conductivities of the shales, some being less than 0.001 ft/day, are a measure of the degree of groundwater confinement that the shale units provide. These data indicate that the Upper and Lower Confining Units can serve as aquitards for ISR operations.

The two tests conducted at the 12-18 well cluster provide site-specific data at the operational scale of a prospective ISR wellfield. Ore grades and volume are favorable at this location, as are the most permeable horizons in the ore zone unit.

6.0 REFERENCES

Bureau of Reclamation, 1977, Ground Water Manual, U.S. Department of the Interior, U.S. Government Printing Office, 480 pages.

Buswell, M.D., 1982, Subsurface Geology of the Oshoto Uranium Deposit, Crook County, Wyoming. Master's Thesis, South Dakota School of Mines and Technology, Rapid City, SD.

Cooper, H.H. and C.E. Jacob, 1946, A generalized graphical method for evaluating formation constants and summarizing well field history, Am Geophys. Union Trans., Vol. 27, pp. 526-534.

Environmental Simulation Inc. (ESI), 2003, AquiferWin32 Version 3, (aquifer test analysis software). Available online at: <http://www.groundwatermodels.com/ESI_Software.php>.

Fetter, C.W., 1988, Applied Hydrology, Merrill, 592 p.

Hamilton, J.L., 1977. Hydrologic Information Vicinity Proposed In-Situ Uranium Leaching Site Oshoto, Wyoming. Unpublished report prepared for Nuclear Dynamics, August 30, 1977.

Hantush, M. S., 1961, Drawdown around a partially penetrating well, Am. Soc. Civil Engineers, Journal of Hydraulics, Vol. 87(HY4), July, pp. 83-98.

Manera, P.A., 1977, Aquifer Analysis Near Oshoto Reservoir, Crook County, Wyoming. Unpublished report prepared for Nuclear Dynamics, revised November 22, 1977.

Manera, P.A., 1978, Aquifer Analysis Area 10 Five Spot Test, Oshoto Reservoir, Crook County, Wyoming. Unpublished report prepared for Nuclear Dynamics, June 5, 1978.

Maslia, M.L., and R.B. Randolph, 1987, Methods and computer programs documentation for determining anisotropic transmissivity component of two-dimensional groundwater flow, USGS Water Supply Paper 2308, 44 pp.

Neuman, S.P., G.R. Walter, H.W. Bently, J.J. Ward, and Gonzalez, D.D., 1984, Determination of horizontal aquifer anisotropy with three wells, Ground Water, Vol 22, No. 1, pp. 66-72.

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Trans. Amer. Geophys. Union, Vol. 16, pp. 519-524.

Appendix 1
34-7 Well Cluster
July 7, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. 34-7 OZ Observation Well No's. 34-7 SA, 34-7 SM, 34-7 DM

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 34-7 SA = 65.95', 34-7 SM = 92.70', 34-7 DM = 77.95'

Water Level Measurements by: ☒ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

(15 gpm Dole valve used)

Screen/Perforation Interval(s) (below land surface) 318.50' – 378.50'

Depth of Pump Intake (below land surface) 288.5 feet (dedicated 2 h.p.)

Depth of Static Water Level (from measurement point) 84.94 feet

Height of Measurement Point (above land surface) 1.87 feet

Elevation of Measurement Point 4,136.75 feet a.m.s.l.

Pump On Date 07 / 07 / 2010 Time 1545 AM/(PM)

Pump Off Date 07 / 08 / 2010 Time 1547 AM/(PM)

Weather Conditions Fair-partly cloudy, calm, 70's ° F. Rained 2 days ago.

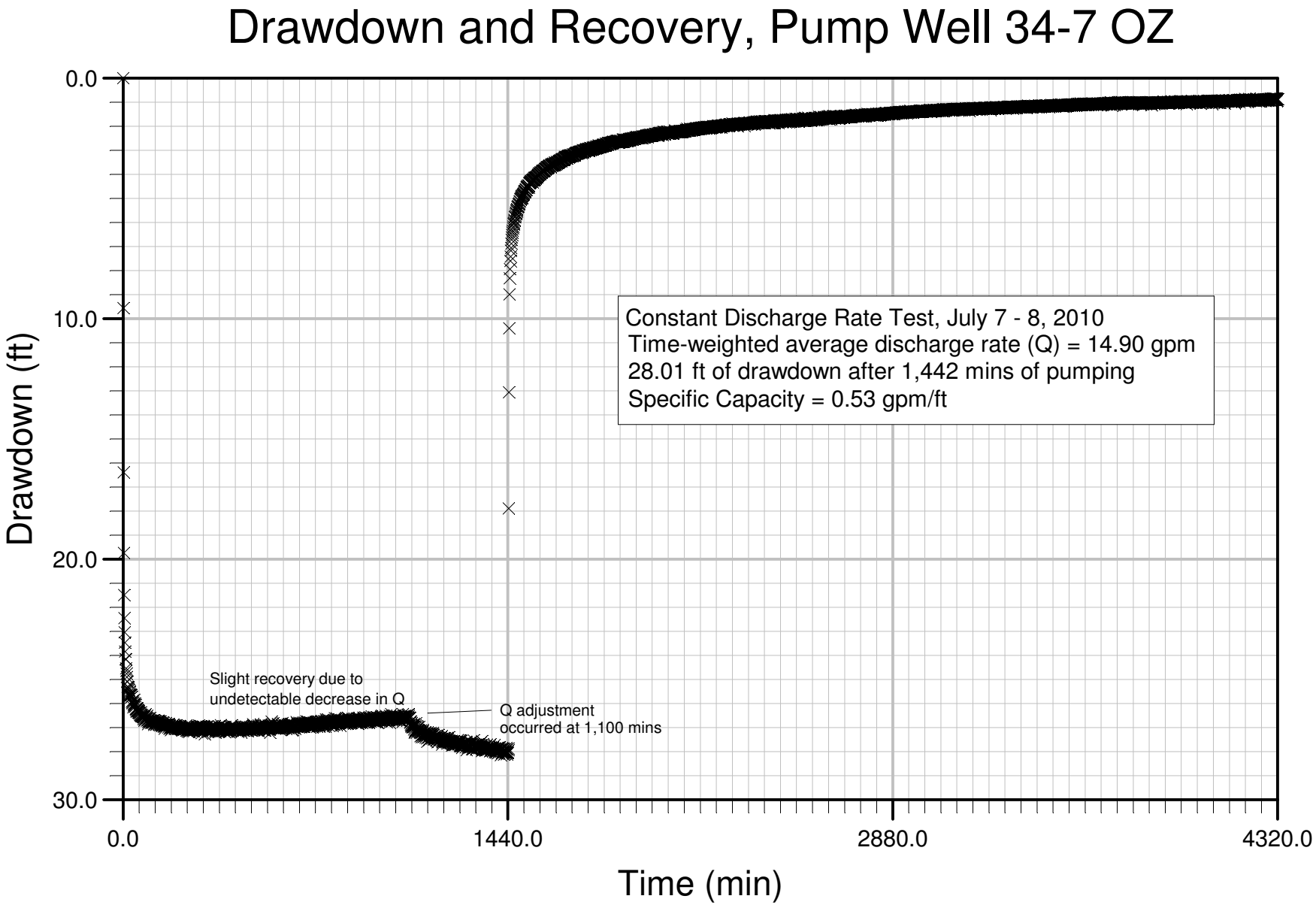
Test Performed by Fuller, Collier

WWC ENGINEERING

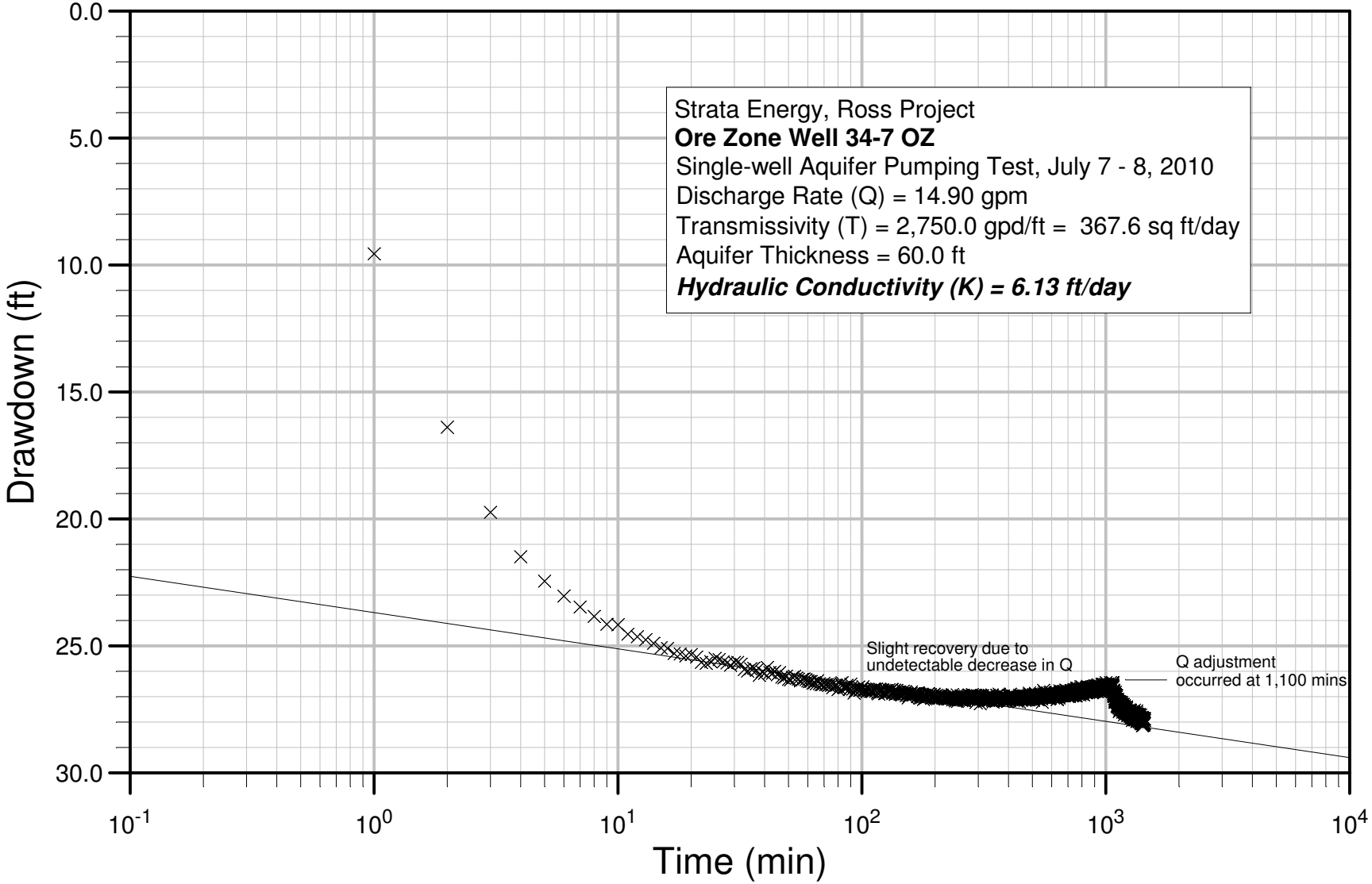
AQUIFER TEST FIELD DATA

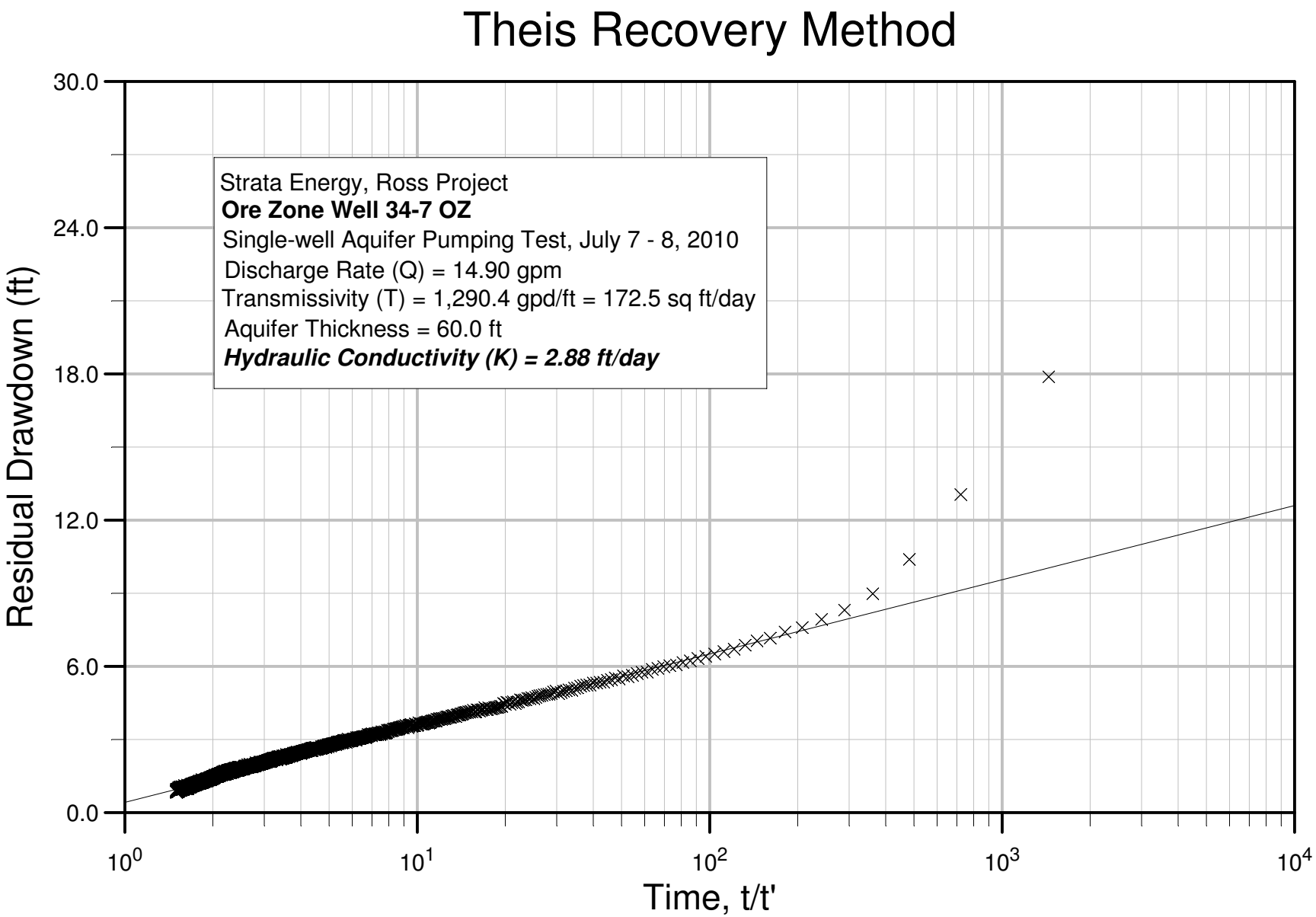
Project/Client ROSS/STRATA ENERGY Well No. 34-7 OZ

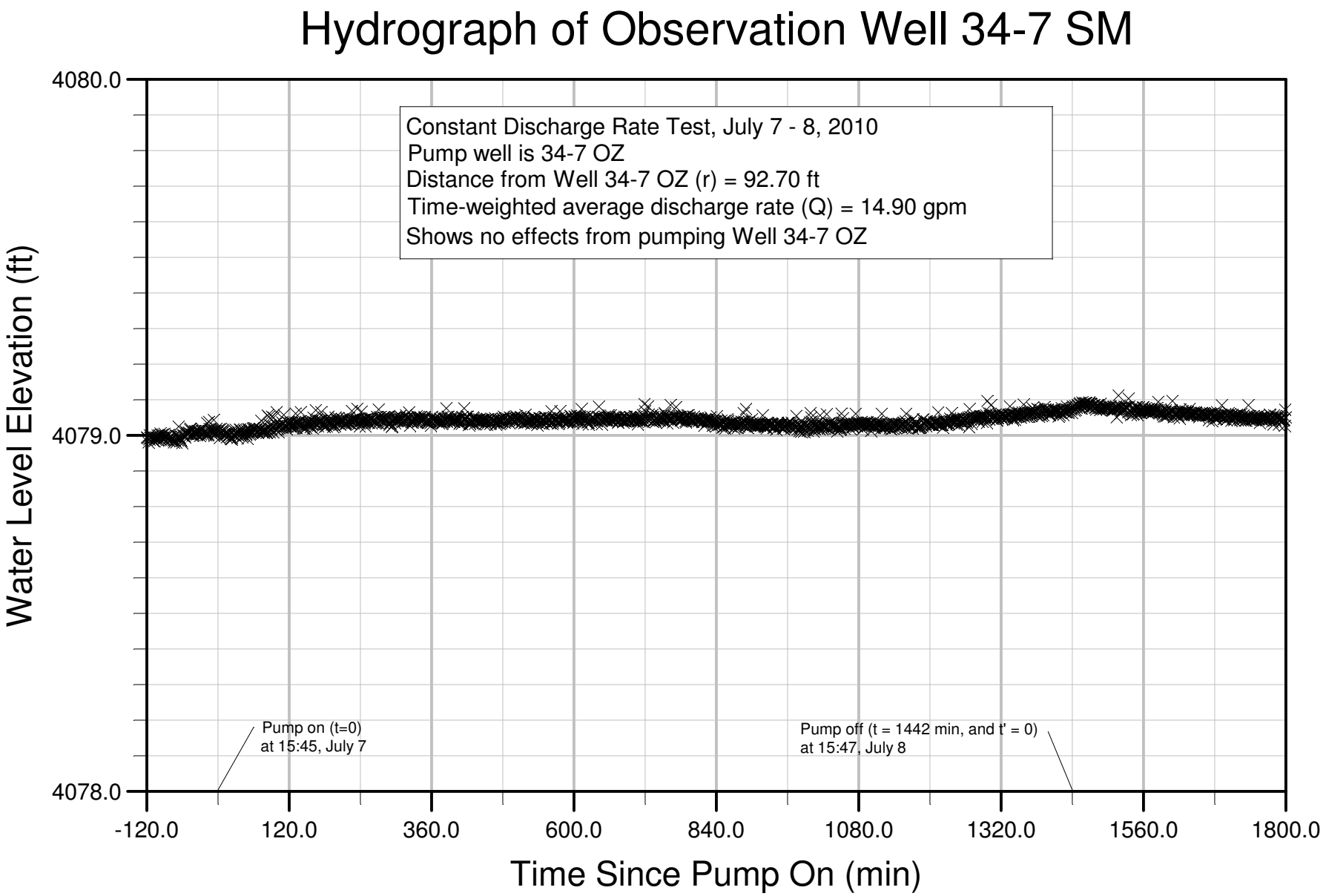
TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-07-10	1545	ON, 0	84.94	0	15.80	Pressure gauge @ 70 psi.
	1546	1	98.02	13.08	15.80	5 gal/19 sec. @ 70 psi.
	1547	2	101.06	16.12		
	1548	3	104.49	19.55	15.80	5 gal/19 sec.
	1550	5	107.23	22.29		
	1551	6	107.97	23.03	15.80	5 gal/19 sec. @70 psi.
	1557	12	108.65	23.71		
	1558	13	109.75	24.81		
	1602	17	110.02	25.08	15.80	Gate valve adjusted to maintain 70 psi.
	1632	47	111.05	26.11	15.80	Constant pressure hard to maintain.
	1809	144	111.73	26.79	15.00	5 gal/20 sec. @75 psi.
	1850	185	111.91	26.97	15.00	5 gal/19-20 sec.
7-08-10	0938	1073	111.72	26.78	15.00	Discharge diminished slightly-adjusted up.
	1401	1336	112.75	27.81	14.30	5 gal/21 sec @ 75 psi. Discharge adjusted.
	1545	OFF, 1440	112.95	28.01	15.00	5 gal/20 sec @ 70 psi. Collected sample.
						Recovery data recorded by pressure transducer.

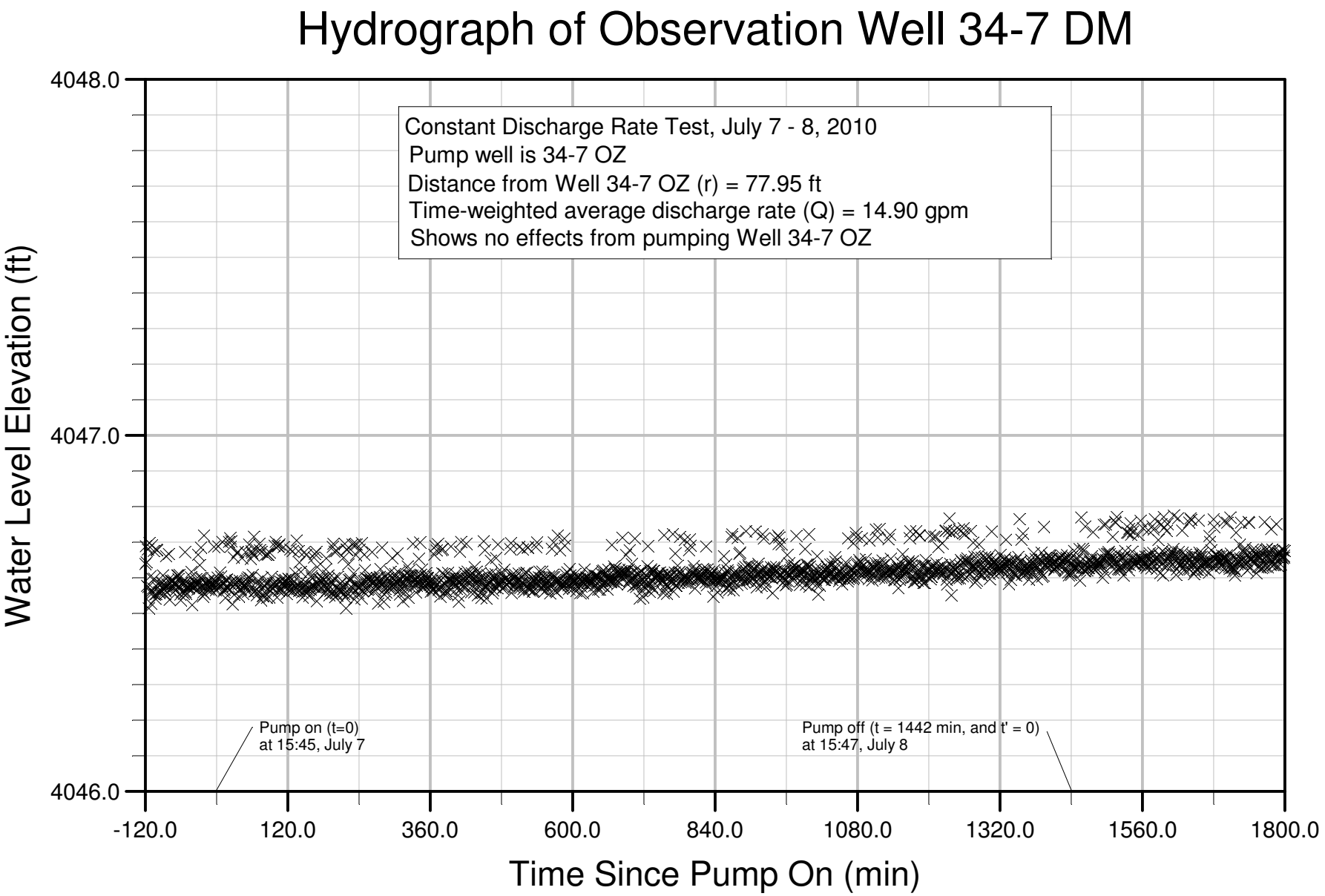

Drawdown and Recovery, Pump Well 34-7 OZ
Drawdown (ft)
0.0
10.0
20.0
30.0
Time (min)
0.0
1440.0
2880.0
4320.0
Constant Discharge Rate Test, July 7 - 8, 2010
Time-weighted average discharge rate (Q) = 14.90 gpm
28.01 ft of drawdown after 1,442 mins of pumping
Specific Capacity = 0.53 gpm/ft
Slight recovery due to
undetectable decrease in Q
Q adjustment
occurred at 1,100 mins

Cooper Jacob Straight Line Method




Theis Recovery Method
Strata Energy, Ross Project
Ore Zone Well 34-7 OZ
Single-well Aquifer Pumping Test, July 7 - 8, 2010
Discharge Rate (Q) = 14.90 gpm
Transmissivity (T) = 1,290.4 gpd/ft = 172.5 sq ft/day
Aquifer Thickness = 60.0 ft
Hydraulic Conductivity (K) = 2.88 ft/day
Residual Drawdown (ft)
30.0
24.0
18.0
12.0
6.0
0.0
10^0
10^1
10^2
10^3
10^4
Time, t/t'


Hydrograph of Observation Well 34-7 SM
Constant Discharge Rate Test, July 7 - 8, 2010
Pump well is 34-7 OZ
Distance from Well 34-7 OZ (r) = 92.70 ft
Time-weighted average discharge rate (Q) = 14.90 gpm
Shows no effects from pumping Well 34-7 OZ
Pump on (t=0)
at 15:45, July 7
Pump off (t = 1442 min, and t' = 0)
at 15:47, July 8
Water Level Elevation (ft)
4080.0
4079.0
4078.0
-120.0
120.0
360.0
600.0
840.0
1080.0
1320.0
1560.0
1800.0
Time Since Pump On (min)


Hydrograph of Observation Well 34-7 DM
Constant Discharge Rate Test, July 7 - 8, 2010
Pump well is 34-7 OZ
Distance from Well 34-7 OZ (r) = 77.95 ft
Time-weighted average discharge rate (Q) = 14.90 gpm
Shows no effects from pumping Well 34-7 OZ
Pump on (t=0)
at 15:45, July 7
Pump off (t = 1442 min, and t' = 0)
at 15:47, July 8
Water Level Elevation (ft)
4048.0
4047.0
4046.0
-120.0
120.0
360.0
600.0
840.0
1080.0
1320.0
1560.0
1800.0
Time Since Pump On (min)

Appendix 2
42-19 Well Cluster
July 9, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. 42-19 OZ Observation Well No's. 42-19 SA, 42-19 SM, 42-19 DM

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 42-19 SA = 49.24', 42-19 SM = 70.89', 42-19 DM = 42.46'

Water Level Measurements by: ☒ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

(4 gpm Dole valve used)

Screen/Perforation Interval(s) (below land surface) 470' – 560'

Depth of Pump Intake (below land surface) 440 feet (dedicated 2 h.p.)

Depth of Static Water Level (from measurement point) 301.31 feet

Height of Measurement Point (above land surface) 1.38 feet

Elevation of Measurement Point 4,282.62 feet a.m.s.l.

Pump On Date 07 / 09 / 2010 Time 0930 (AM)/PM

Pump Off Date 07 / 10 / 2010 Time 0930 (AM)/PM

Weather Conditions Dry, sunny, calm, 80's ° F.

Test Performed by Fuller

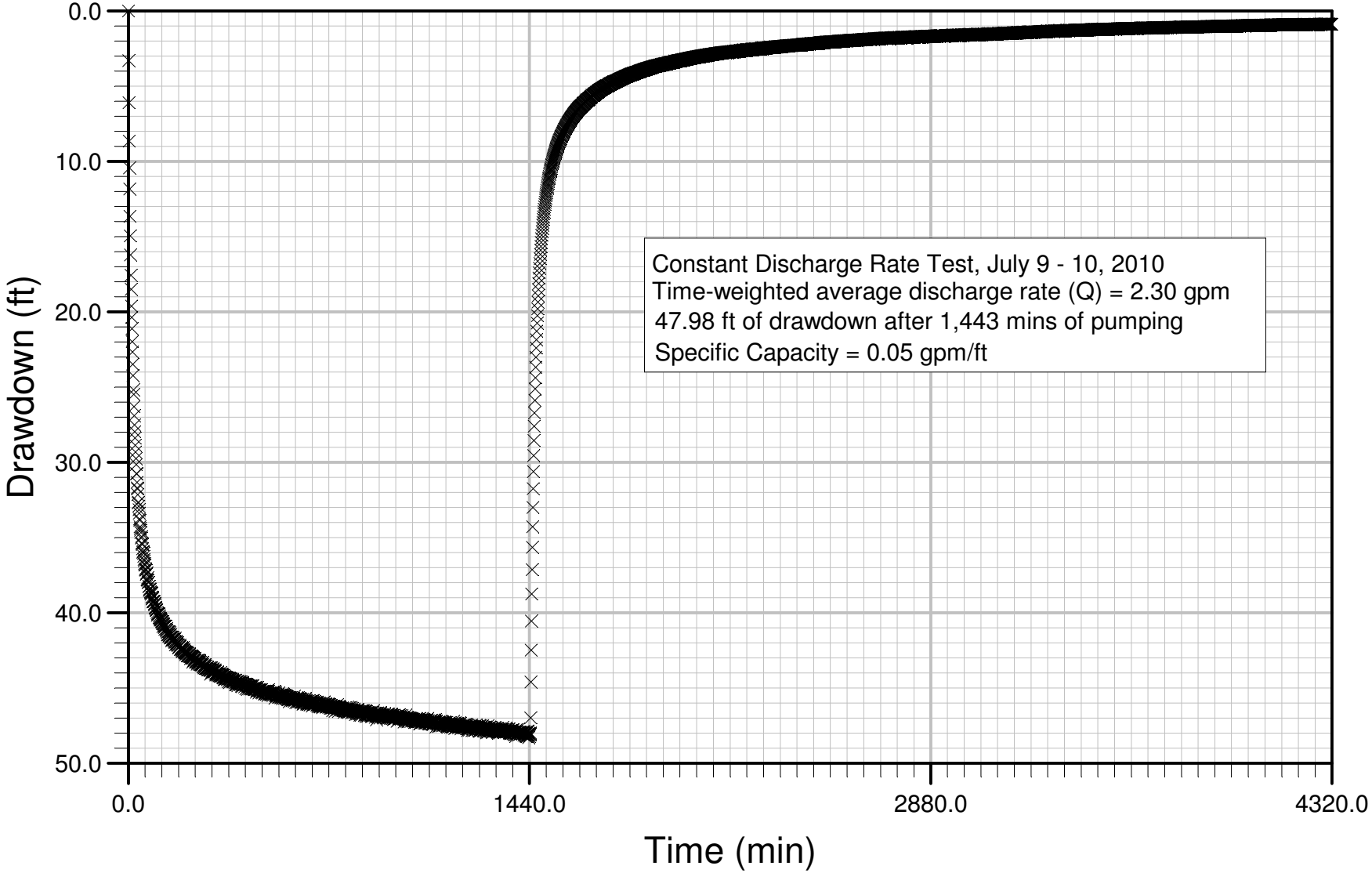
WWC ENGINEERING

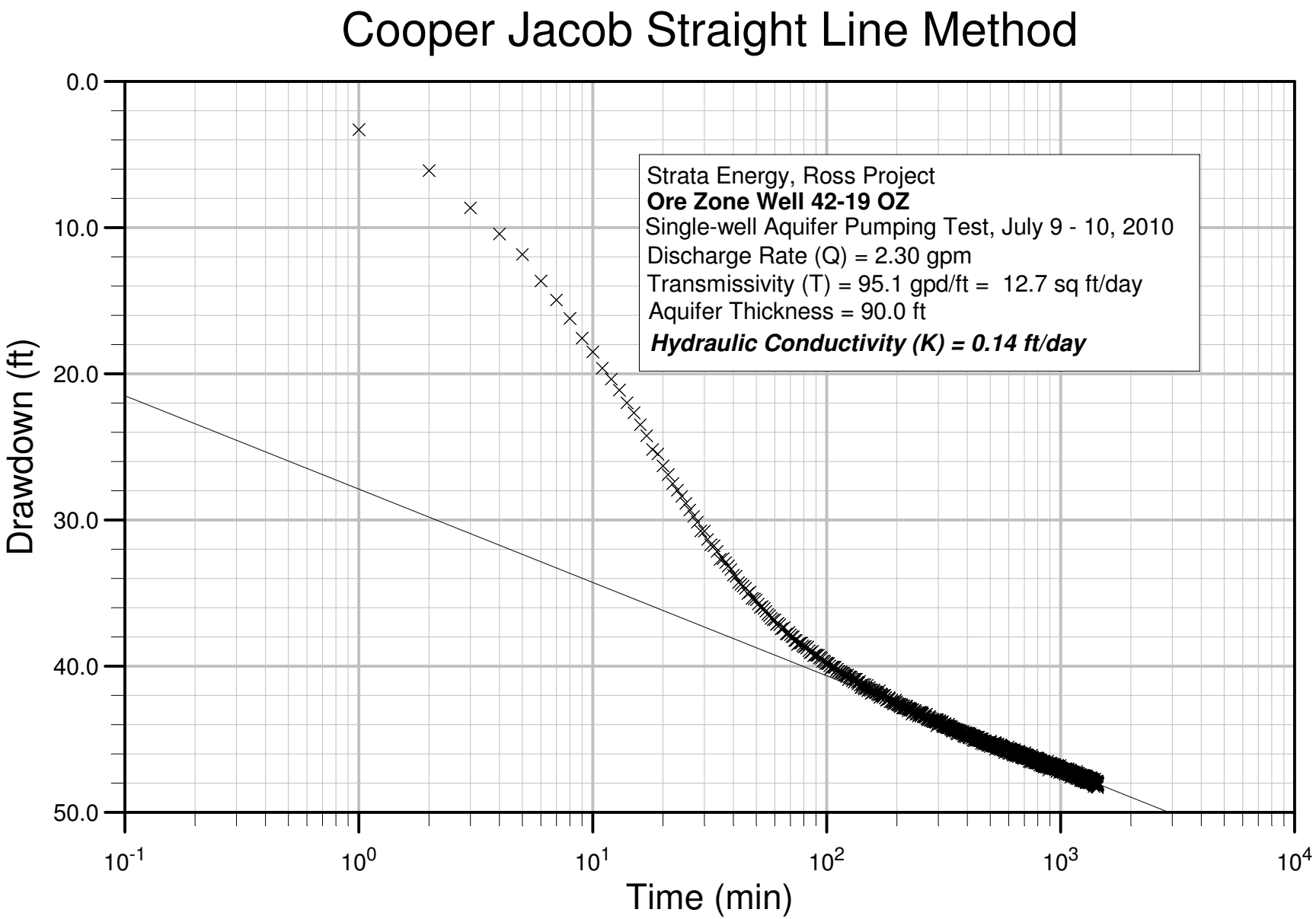
AQUIFER TEST FIELD DATA

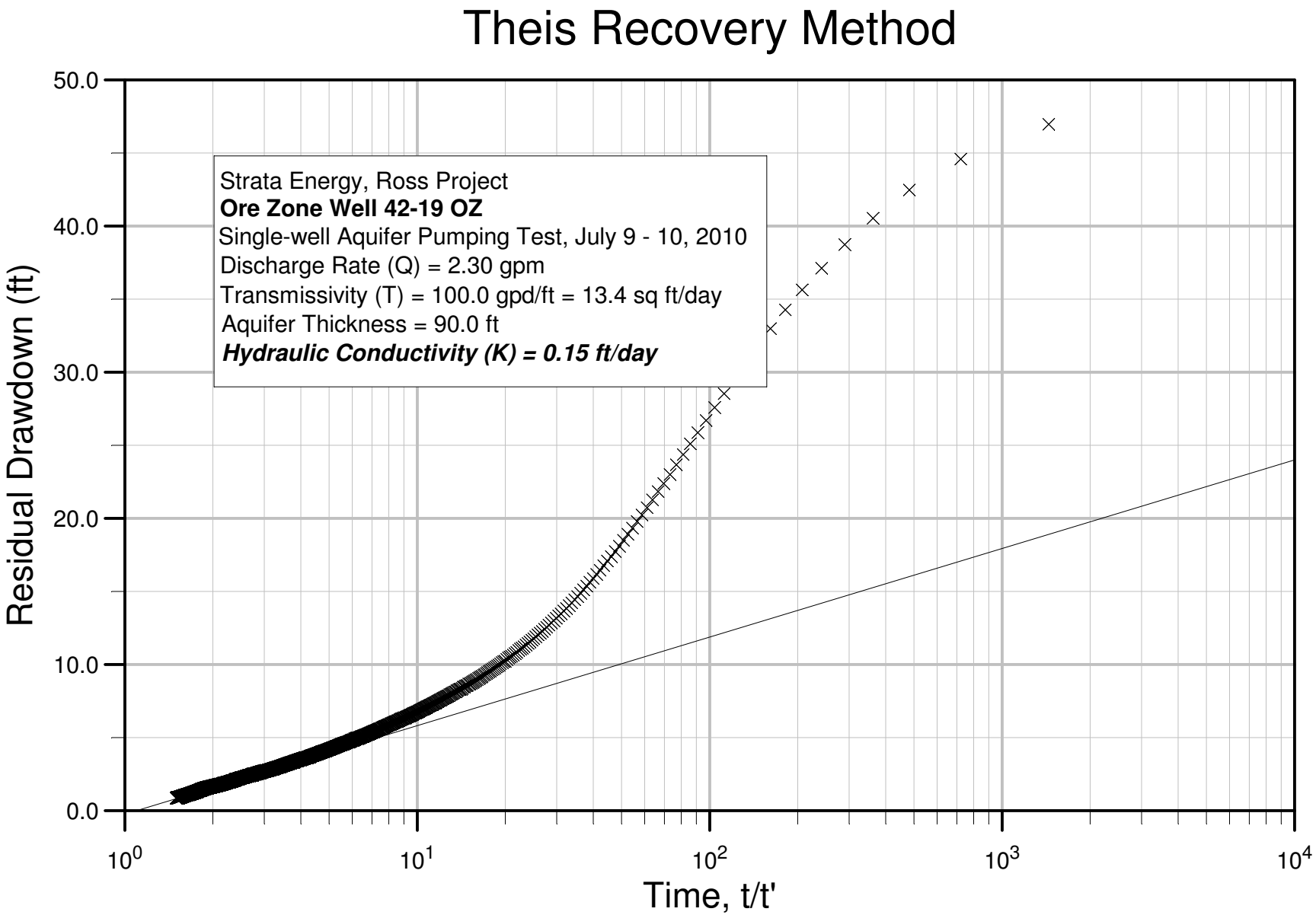
Project/Client ROSS/STRATA ENERGY Well No. 42-19 OZ

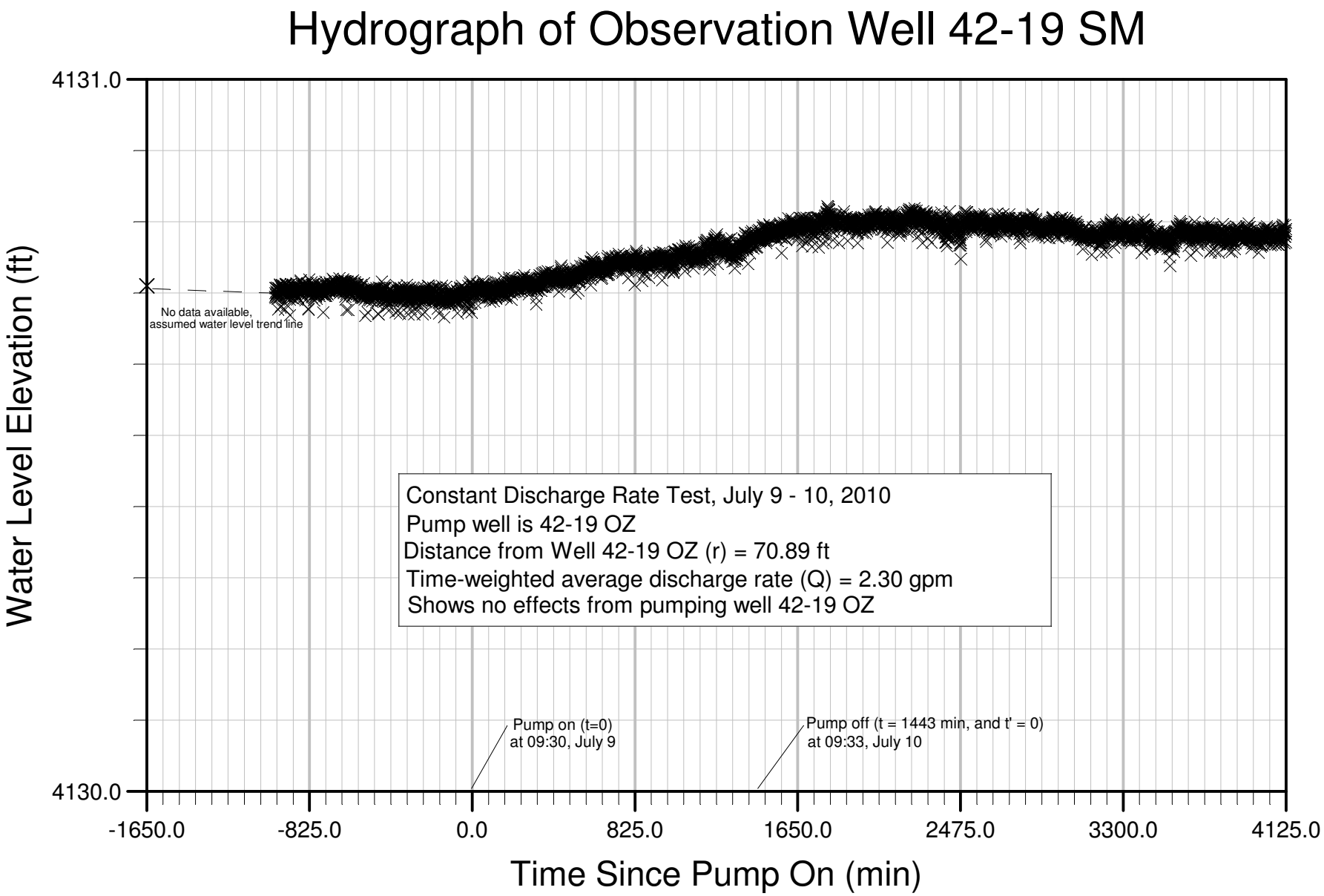
TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-09-10	0930	ON, 0	301.31	0		Pressure gauge @ 90 psi.
	0931	1	302.81	1.50	2.4	5 gal/130 sec.
	0933	3	309.29	7.98		92 psi
	0935	5	311.03	9.72		
	0940	10	319.43	18.12	2.4	5 gal/130 sec.
	0950	20	327.18	25.87	2.4	5 gal/130 sec., 87 psi
	1010	40	335.06	33.75	2.3	5 gal/136 sec., 85 psi
	1100	90	340.50	39.19	2.3	5 gal/133 sec., 83 psi
	1200	150	342.82	41.51	2.3	5 gal/133 sec., 82 psi
	1430	300	345.20	43.89	2.3	5 gal/133 sec., 80 psi
	1800	510	346.80	45.49	2.3	5 gal/133 sec., 80 psi
7-10-10	0830	1380	346.80	48.14	2.3	5 gal/133 sec., 80 psi
	0930	OFF, 1440	349.52	48.21	2.3	Water quality sample collected.
						Recovery data recorded by pressure transducer.

Drawdown and Recovery, Pump Well 42-19 OZ

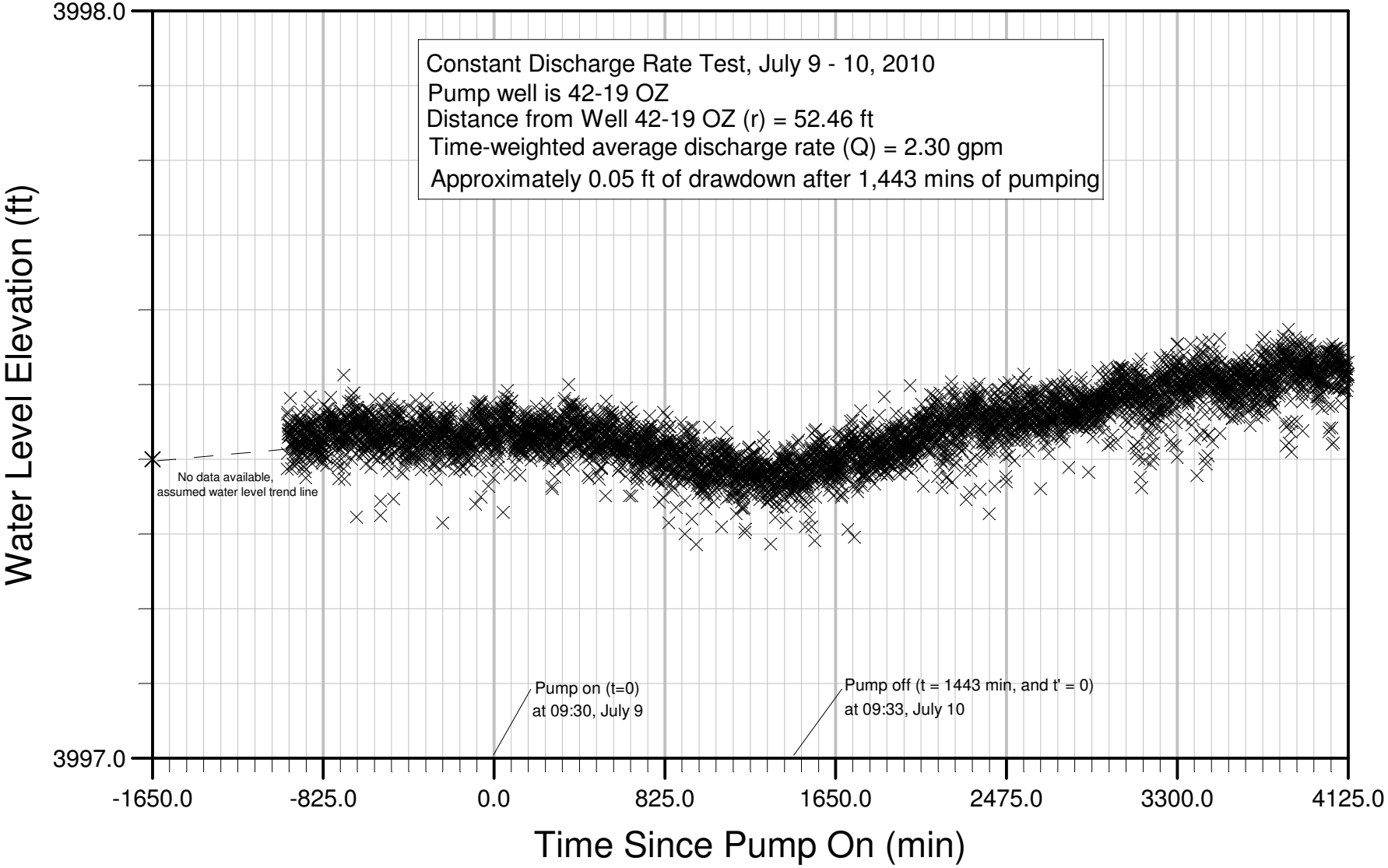



Cooper Jacob Straight Line Method
Strata Energy, Ross Project
Ore Zone Well 42-19 OZ
Single-well Aquifer Pumping Test, July 9 - 10, 2010
Discharge Rate (Q) = 2.30 gpm
Transmissivity (T) = 95.1 gpd/ft = 12.7 sq ft/day
Aquifer Thickness = 90.0 ft
Hydraulic Conductivity (K) = 0.14 ft/day
Drawdown (ft)
0.0
10.0
20.0
30.0
40.0
50.0
Time (min)
10-1
100
101
102
103
104


Theis Recovery Method
Strata Energy, Ross Project
Ore Zone Well 42-19 OZ
Single-well Aquifer Pumping Test, July 9 - 10, 2010
Discharge Rate (Q) = 2.30 gpm
Transmissivity (T) = 100.0 gpd/ft = 13.4 sq ft/day
Aquifer Thickness = 90.0 ft
Hydraulic Conductivity (K) = 0.15 ft/day
Residual Drawdown (ft)
50.0
40.0
30.0
20.0
10.0
0.0
10^0
10^1
10^2
10^3
10^4
Time, t/t'


Hydrograph of Observation Well 42-19 SM
Water Level Elevation (ft)
4131.0
4130.0
No data available,
assumed water level trend line
Constant Discharge Rate Test, July 9 - 10, 2010
Pump well is 42-19 OZ
Distance from Well 42-19 OZ (r) = 70.89 ft
Time-weighted average discharge rate (Q) = 2.30 gpm
Shows no effects from pumping well 42-19 OZ
Pump on (t=0)
at 09:30, July 9
Pump off (t = 1443 min, and t' = 0)
at 09:33, July 10
-1650.0
-825.0
0.0
825.0
1650.0
2475.0
3300.0
4125.0
Time Since Pump On (min)

Hydrograph of Observation Well 42-19 DM



Appendix 3
34-18 Well Cluster
July 12, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. 34-18 OZ Observation Well No's. 34-18 SA, 34-18 SM, 34-18 DM

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 34-18 SA = 46.46', 34-18 SM = 70.55', 34-18 DM = 48.96'

Water Level Measurements by: ☒ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

(6 gpm Dole valve used)

Screen/Perforation Interval(s) (below land surface) 460' – 565'

Depth of Pump Intake (below land surface) 430 feet (dedicated 2 h.p.)

Depth of Static Water Level (from measurement point) 279.99 feet

Height of Measurement Point (above land surface) 1.51 feet

Elevation of Measurement Point 4,247.65 feet a.m.s.l.

Pump On Date 07 / 12 / 2010 Time 1332 AM/(PM)

Pump Off Date 07 / 13 / 2010 Time 1332 AM/(PM)

Weather Conditions Dry, breezy, clear, mid 80's ° F

Test Performed by Rogers, Evers

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY Well No. 34-18 OZ

TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-12-10	1332	ON, 0	279.99	0		Pressure gauge @ 75psi
	1337	5			6.0	5 gal/50 sec.
	1340	8	313.10	33.11		
	1342	10	315.95	35.96		
	1343	11			6.0	5 gal/50 sec.
	1345	13	319.89	39.90		
	1350	18	323.96	43.97	5.66	5 gal/53 sec.
	1355	23	326.58	46.59	5.66	5 gal/53 sec.
	1400	28	328.48	48.49	5.56	5 gal/54 sec.
	1405	33	329.94	49.95	5.56	5 gal/54 sec.
	1415	43	331.45	51.46	5.56	5 gal/54 sec.
	1420	48	332.41	52.42		Approx. 68 psi
	1432	60	333.60	53.61	5.56	5 gal/54 sec.
	1442	70	334.42	54.43	5.26	5 gal/57 sec.
	1452	80	334.93	54.94	5.45	5 gal/55 sec.
	1502	90	335.48	55.49	5.45	5 gal/55 sec.
	1512	100	335.50	55.51	5.45	5 gal/55 sec.
	1532	120	336.57	55.58	5.26	5 gal/57 sec.

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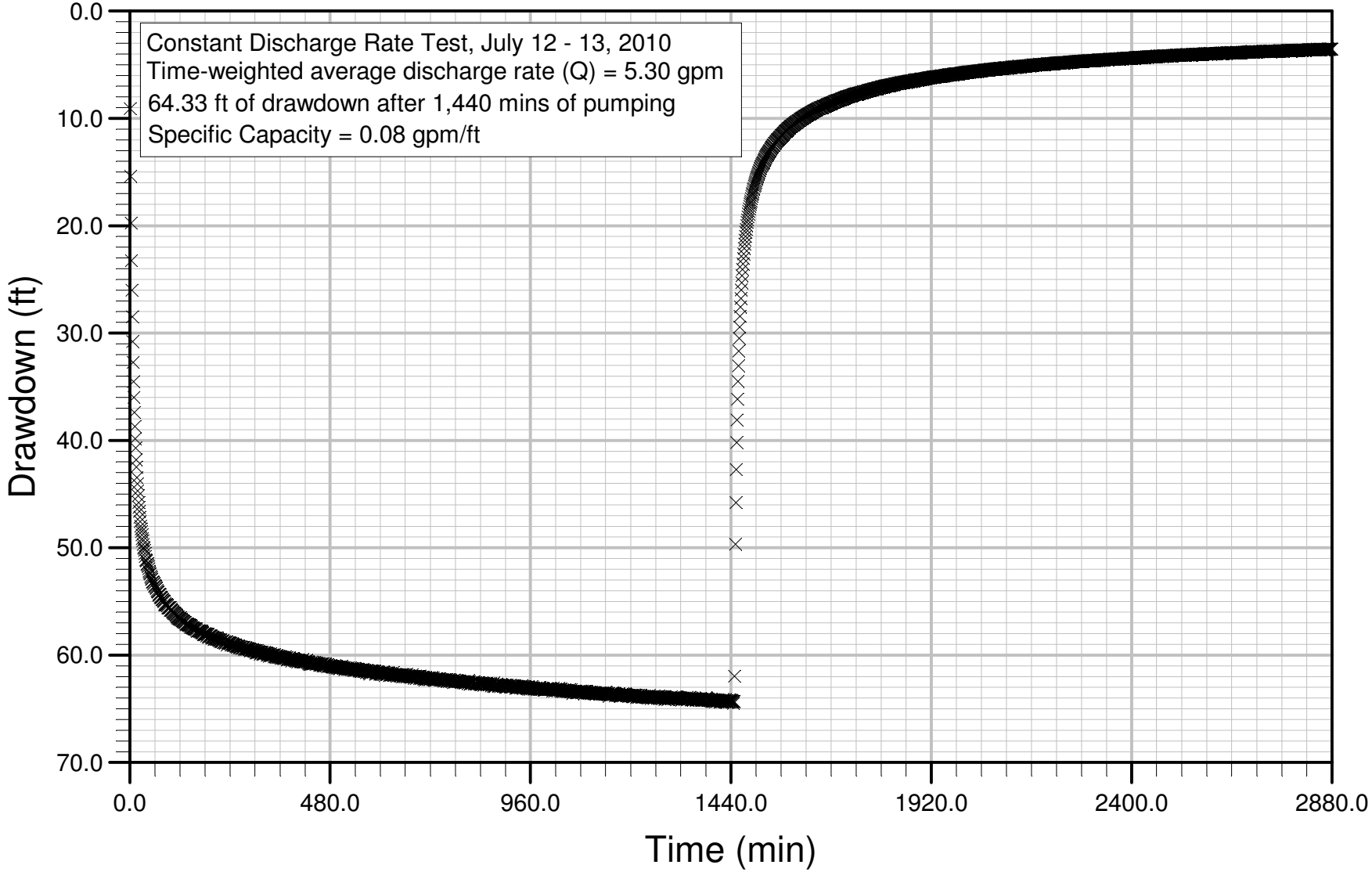
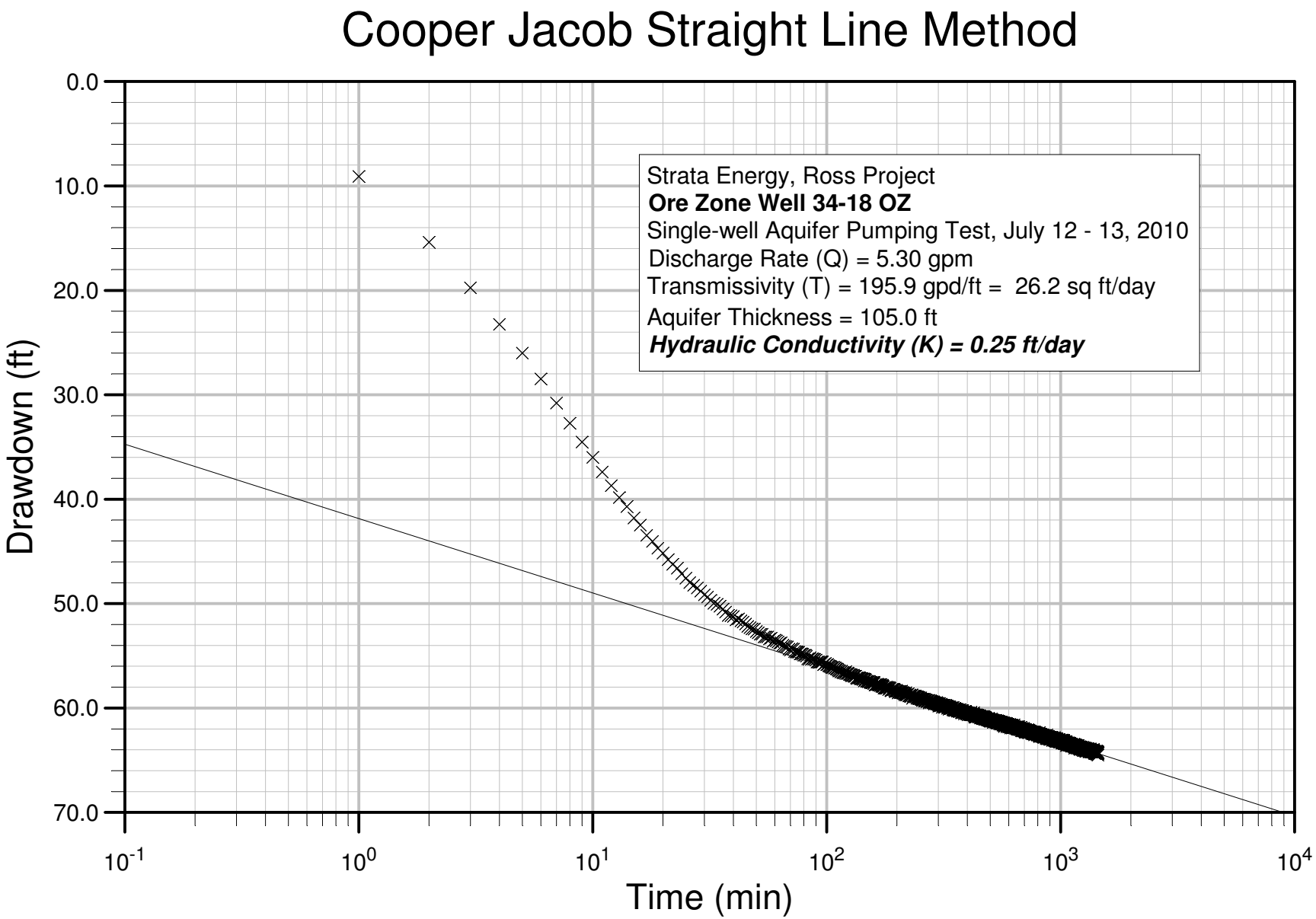
AQUIFER TEST FIELD DATA

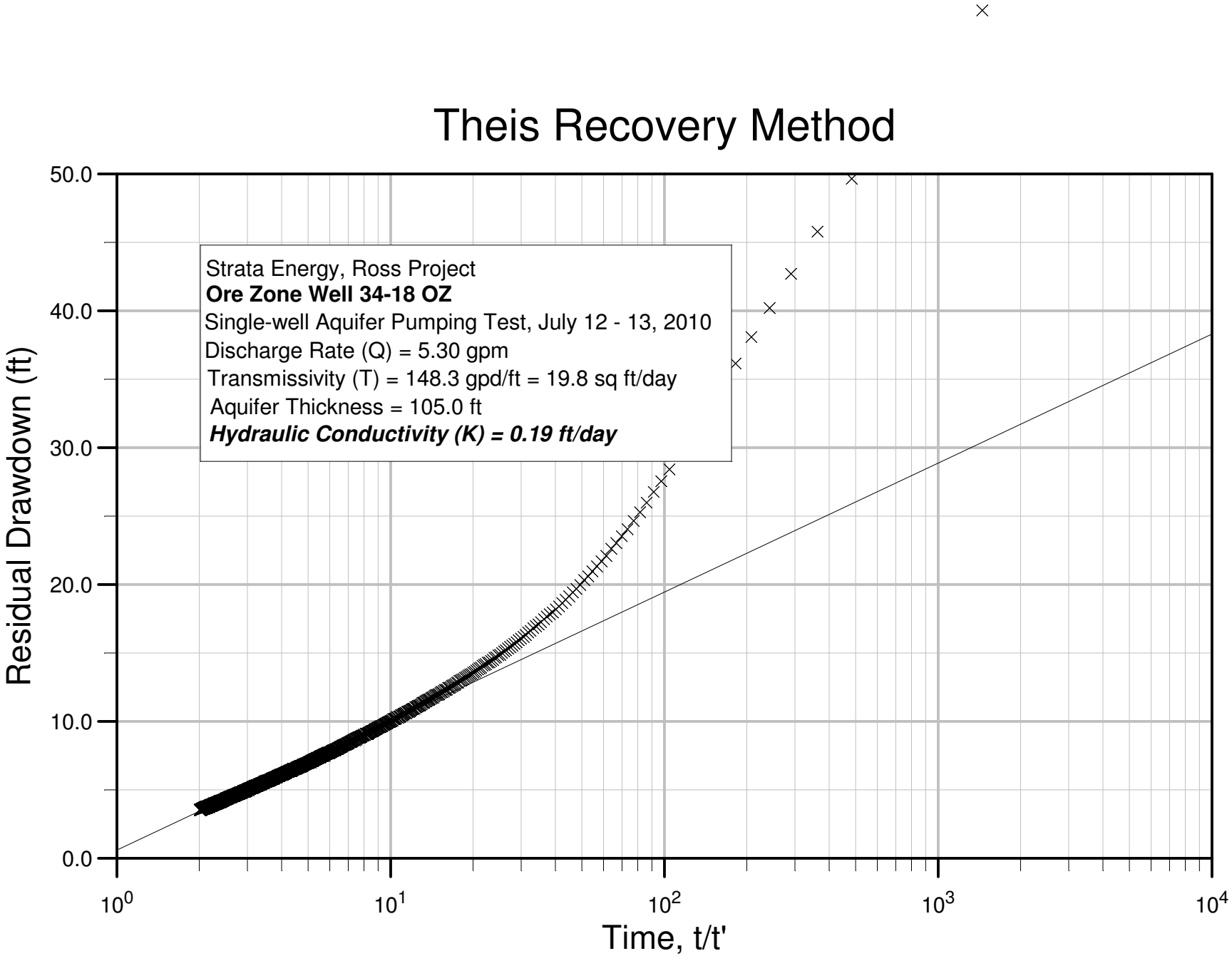
Project/Client ROSS/STRATA ENERGY Well No. 34-18 OZ

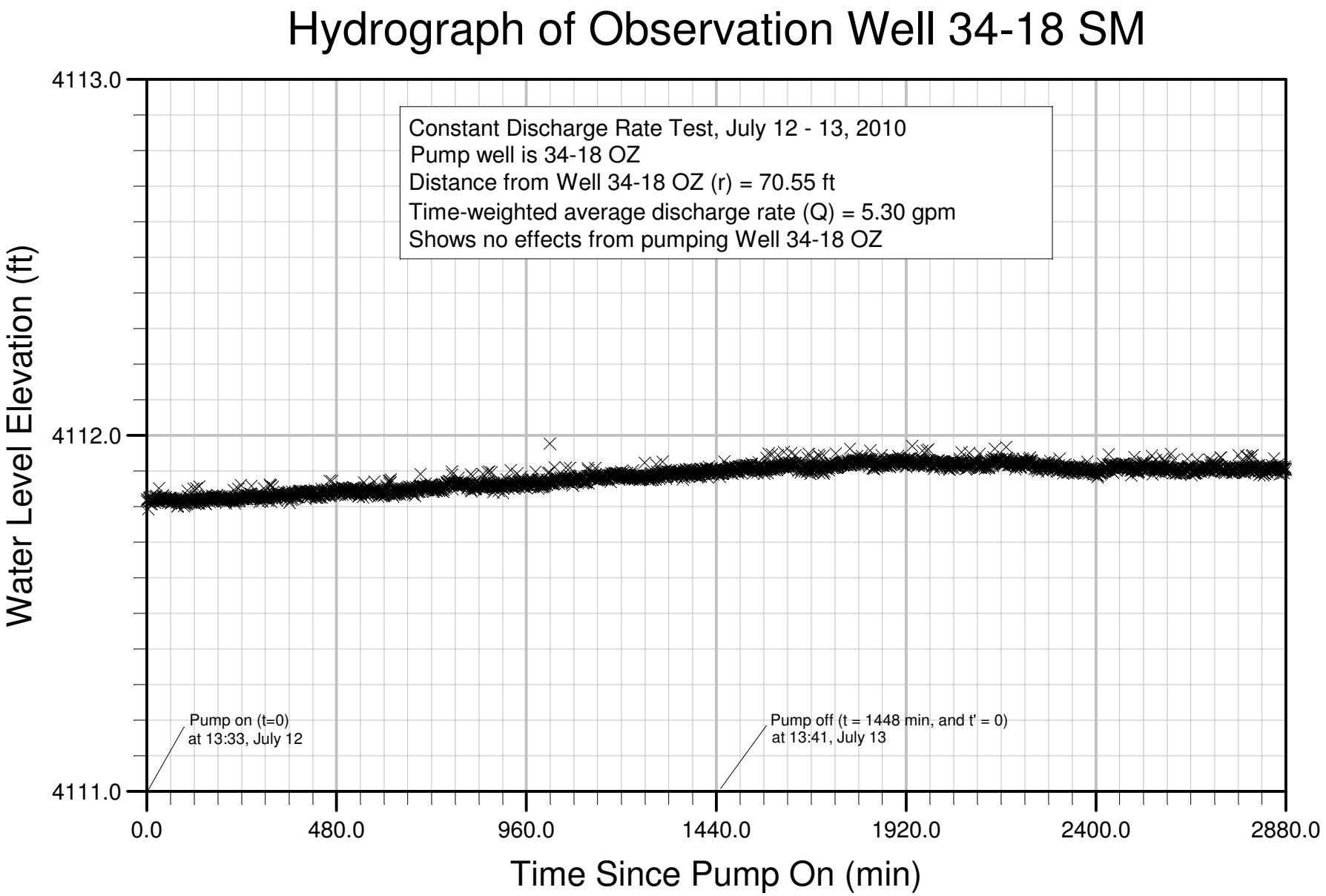
TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-12-10	1608	156	337.56	57.57	5.26	5 gal/57 sec.
	1632	180	338.04	58.05	5.26	5 gal/57 sec.
	1702	210	338.07	58.08	5.26	5 gal/57 sec.
	1732	240	339.06	59.07	5.26	5 gal/57 sec.
	1802	270	339.40	59.41	5.26	5 gal/57 sec.
	1832	300	339.58	59.59	5.26	5 gal/57 sec.
7-13-10	0602	1020	343.20	63.21	5.26	5 gal/57 sec.
	0732	1110	343.25	63.26	5.17	5 gal/58 sec., 65 psi
	0832	1170	343.44	63.45	5.17	5 gal/58 sec.
	1115	1333	344.09	64.10	5.17	5 gal/58 sec.
	1232	1380	344.02	64.03	5.17	5 gal/58 sec.
	1332	OFF, 1440	344.29	64.30	5.17	Water quality sample collected
						Recovery data recorded by pressure transducer.

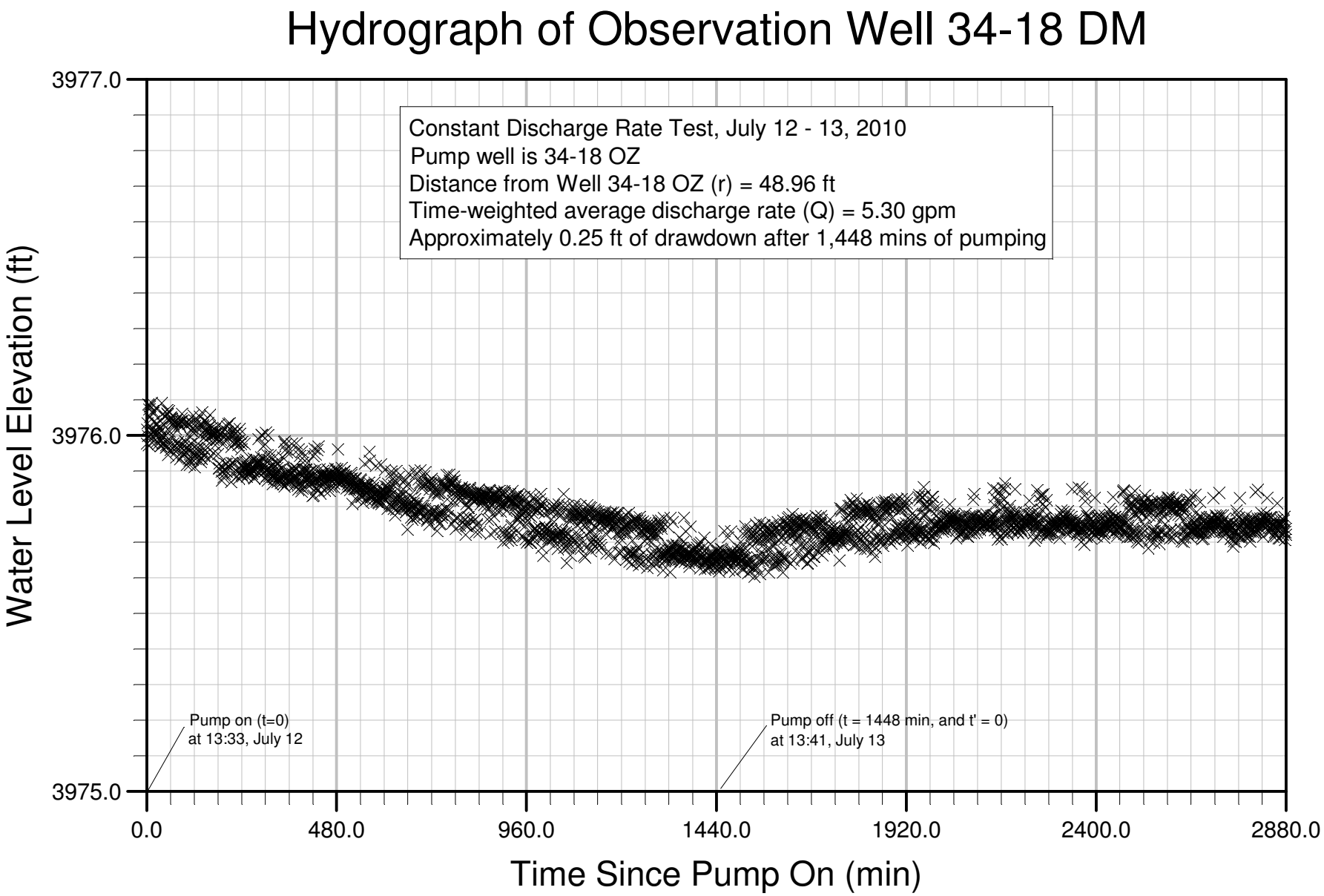
Drawdown and Recovery, Pump Well 34-18 OZ




Cooper Jacob Straight Line Method
Strata Energy, Ross Project
Ore Zone Well 34-18 OZ
Single-well Aquifer Pumping Test, July 12 - 13, 2010
Discharge Rate (Q) = 5.30 gpm
Transmissivity (T) = 195.9 gpd/ft = 26.2 sq ft/day
Aquifer Thickness = 105.0 ft
Hydraulic Conductivity (K) = 0.25 ft/day
Drawdown (ft)
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Time (min)
10-1
100
101
102
103
104


Theis Recovery Method
Strata Energy, Ross Project
Ore Zone Well 34-18 OZ
Single-well Aquifer Pumping Test, July 12 - 13, 2010
Discharge Rate (Q) = 5.30 gpm
Transmissivity (T) = 148.3 gpd/ft = 19.8 sq ft/day
Aquifer Thickness = 105.0 ft
Hydraulic Conductivity (K) = 0.19 ft/day
Residual Drawdown (ft)
50.0
40.0
30.0
20.0
10.0
0.0
10^0
10^1
10^2
10^3
10^4
Time, t/t'


Hydrograph of Observation Well 34-18 SM
Constant Discharge Rate Test, July 12 - 13, 2010
Pump well is 34-18 OZ
Distance from Well 34-18 OZ (r) = 70.55 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
Shows no effects from pumping Well 34-18 OZ
Pump on (t=0)
at 13:33, July 12
Pump off (t = 1448 min, and t' = 0)
at 13:41, July 13
Water Level Elevation (ft)
4113.0
4112.0
4111.0
0.0
480.0
960.0
1440.0
1920.0
2400.0
2880.0
Time Since Pump On (min)


Hydrograph of Observation Well 34-18 DM
Constant Discharge Rate Test, July 12 - 13, 2010
Pump well is 34-18 OZ
Distance from Well 34-18 OZ (r) = 48.96 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
Approximately 0.25 ft of drawdown after 1,448 mins of pumping
Water Level Elevation (ft)
3977.0
3976.0
3975.0
Pump on (t=0)
at 13:33, July 12
Pump off (t = 1448 min, and t' = 0)
at 13:41, July 13
0.0
480.0
960.0
1440.0
1920.0
2400.0
2880.0
Time Since Pump On (min)

Appendix 4
14-18 Well Cluster
July 13, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. 14-18 OZ Observation Well No's. 14-18 SA, 14-18 SM, 14-18 DM

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 14-18 SA = 52.99', 14-18 SM = 71.92', 14-18 DM = 52.35'

Water Level Measurements by: ☒ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

(6 gpm Dole valve used)

Screen/Perforation Interval(s) (below land surface) 499' – 529'

Depth of Pump Intake (below land surface) 469 feet (dedicated 2 h.p.)

Depth of Static Water Level (from measurement point) 155.54 feet

Height of Measurement Point (above land surface) 1.18 feet

Elevation of Measurement Point 4,156.47 feet a.m.s.l.

Pump On Date 07 / 13 / 2010 Time 1436 AM/(PM)

Pump Off Date 07 / 14 / 2010 Time 1436 AM/(PM)

Weather Conditions Dry, breezy, clear, mid 80's ° F

Test Performed by Rogers, Evers

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY Well No. 14-18 OZ

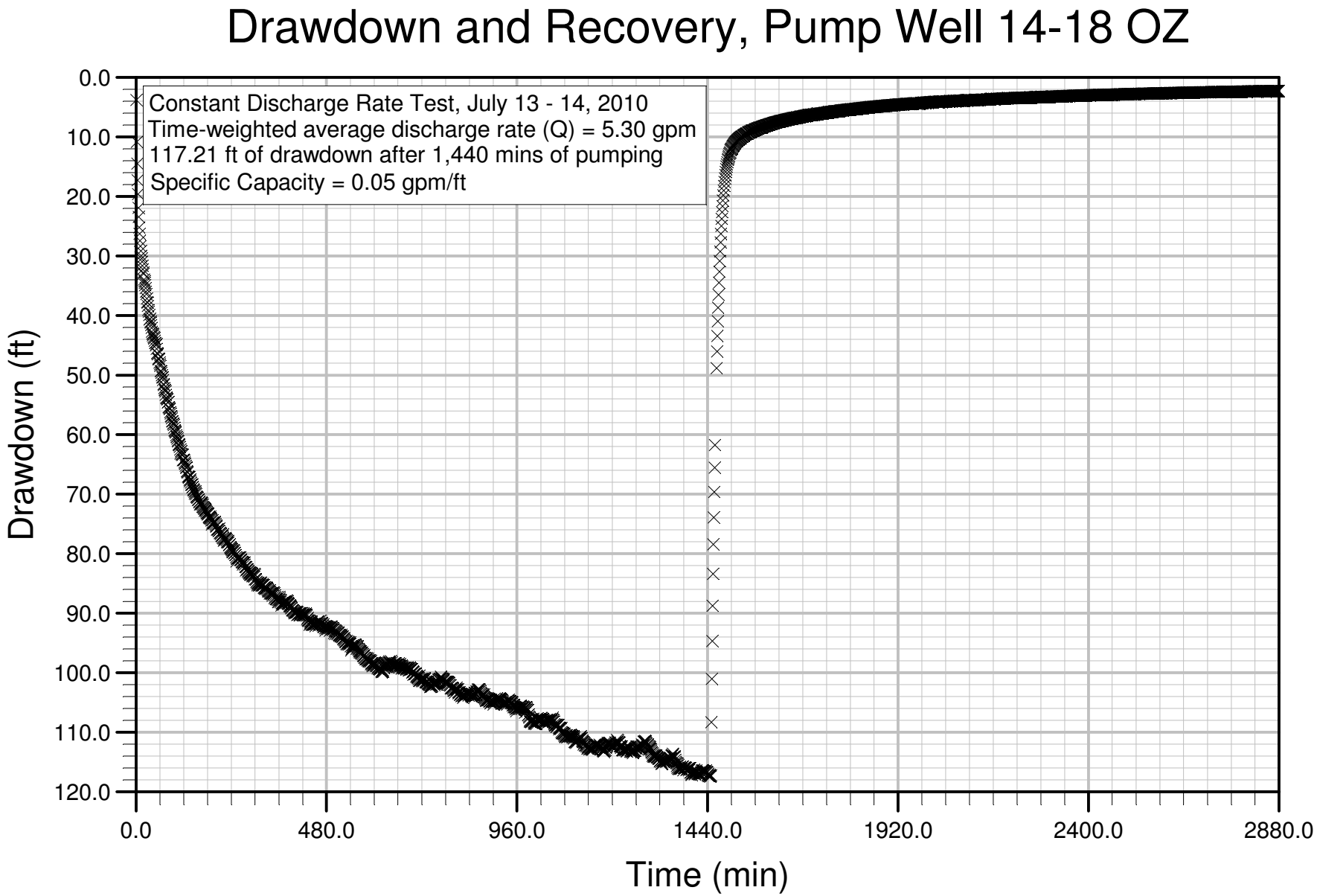
TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-13-10	1436	ON, 0	155.54	0		Pressure gauge @ 70 psi
	1439	3	173.27	17.73	5.88	5 gal/51 sec.
	1441	5	177.68	22.17		
	1444	8	182.49	26.95	5.45	5 gal/55 sec.
	1446	10	183.47	27.93		
	1450	14	186.15	30.61	5.66	5 gal/53 sec.
	1454	18	188.79	33.25		
	1456	20	189.54	34.00		
	1500	24	191.59	36.05	5.45	5 gal/55 sec.
	1506	30	194.46	38.92		
	1516	40	197.69	42.15	5.45	5 gal/55 sec.
	1521	45	199.10	43.56	5.36	5 gal/56 sec.
	1526	50	201.29	45.75		
	1531	55	202.45	46.91	5.26	5 gal/57 sec.
	1536	60	203.20	47.66		
	1546	70	207.05	51.51	5.26	5 gal/57 sec.
	1556	80	210.69	55.15	5.26	5 gal/57 sec.
	1606	90	212.98	57.44		

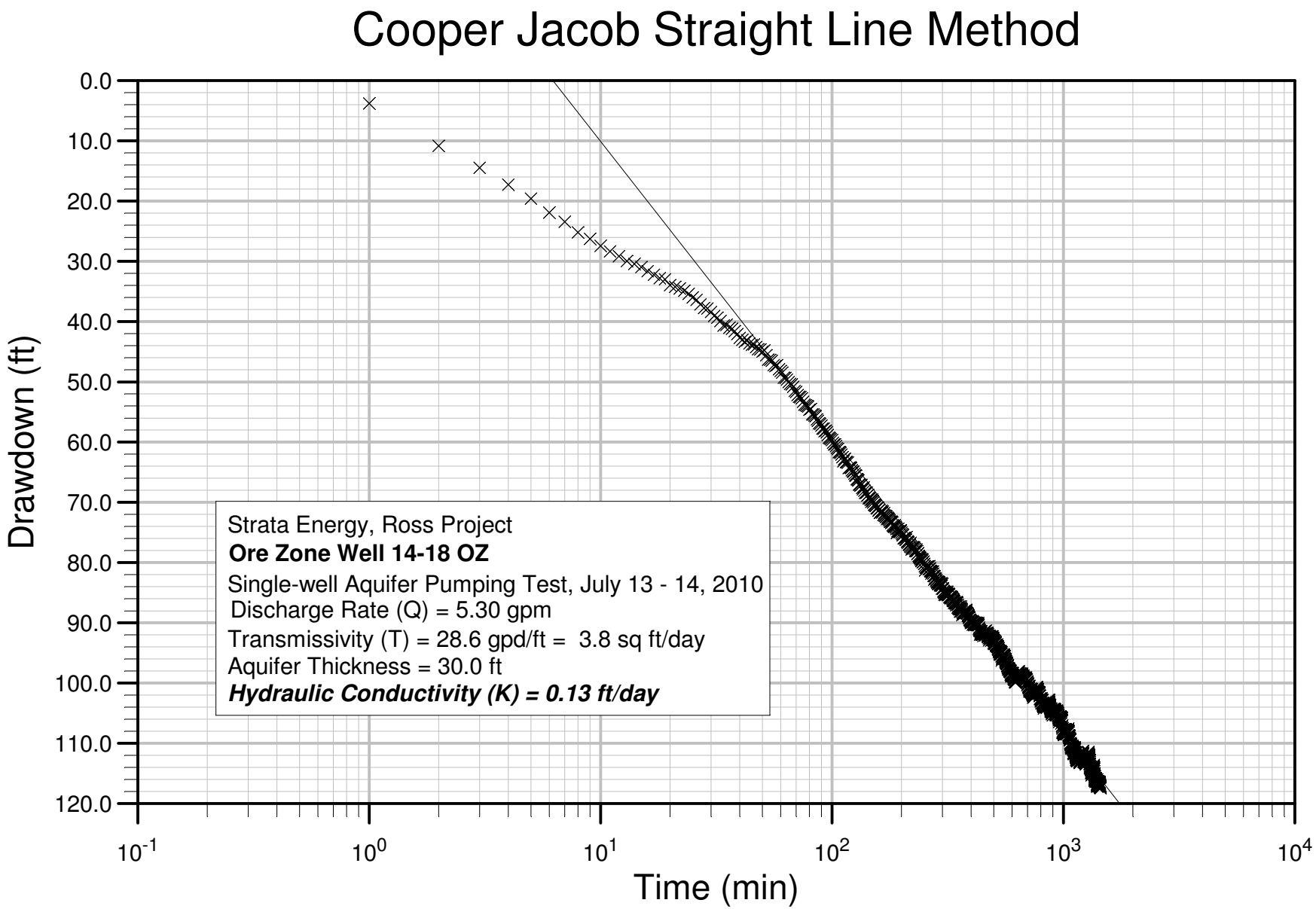
WWC ENGINEERING

AQUIFER TEST FIELD DATA

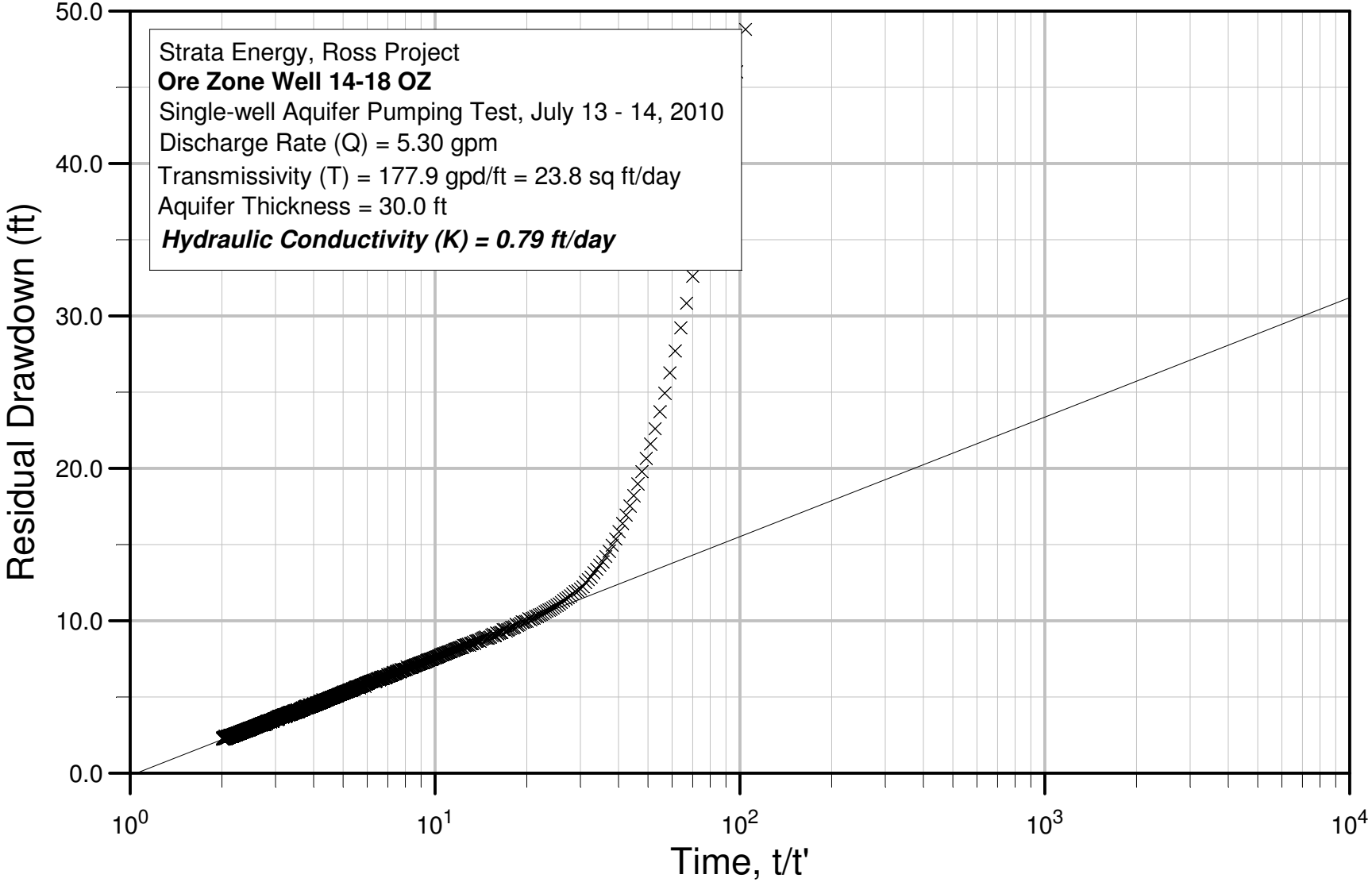
Project/Client ROSS/STRATA ENERGY Well No. 14-18 OZ

TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-13-10	1616	100	215.01	59.47		
	1626	110	217.64	62.10	5.26	5 gal/57 sec.
	1646	130	222.38	66.84		
	1706	150	225.44	69.90		
	1726	170	227.77	72.23	5.26	5 gal/57 sec.
	1746	190	230.18	74.64		
	1806	210	232.16	76.62		
	1826	230	233.09	77.55	5.26	5 gal/57 sec.
7-14-10	0702	986	261.28	105.74		
	0726	1010	263.40	107.86	5.17	5 gal/58 sec.
	0826	1070	264.29	108.75		
	0926	1130	267.24	111.70	5.26	5 gal/57 sec.
	1306	1350	269.11	113.57	5.26	5 gal/57 sec.
	1336	1380	271.40	115.86	5.26	5 gal/57 sec.
	1436	OFF, 1440	272.35	116.81		Water quality sample collected.
						Recovery data recorded by pressure transducer.

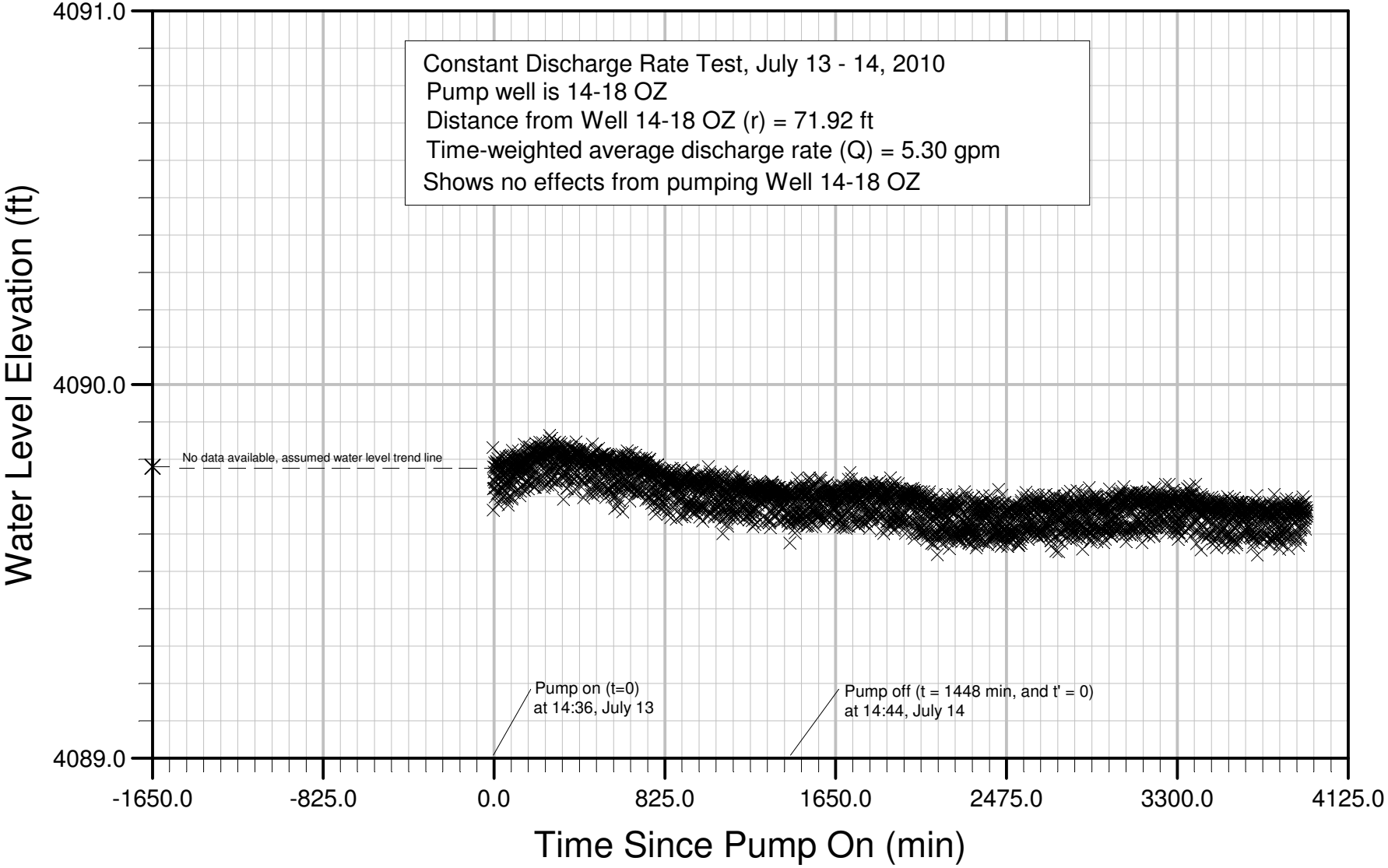

Drawdown and Recovery, Pump Well 14-18 OZ
Constant Discharge Rate Test, July 13 - 14, 2010
Time-weighted average discharge rate (Q) = 5.30 gpm
117.21 ft of drawdown after 1,440 mins of pumping
Specific Capacity = 0.05 gpm/ft
Drawdown (ft)
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
Time (min)
0.0
480.0
960.0
1440.0
1920.0
2400.0
2880.0


Cooper Jacob Straight Line Method
Drawdown (ft)
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
Time (min)
Strata Energy, Ross Project
Ore Zone Well 14-18 OZ
Single-well Aquifer Pumping Test, July 13 - 14, 2010
Discharge Rate (Q) = 5.30 gpm
Transmissivity (T) = 28.6 gpd/ft = 3.8 sq ft/day
Aquifer Thickness = 30.0 ft
Hydraulic Conductivity (K) = 0.13 ft/day

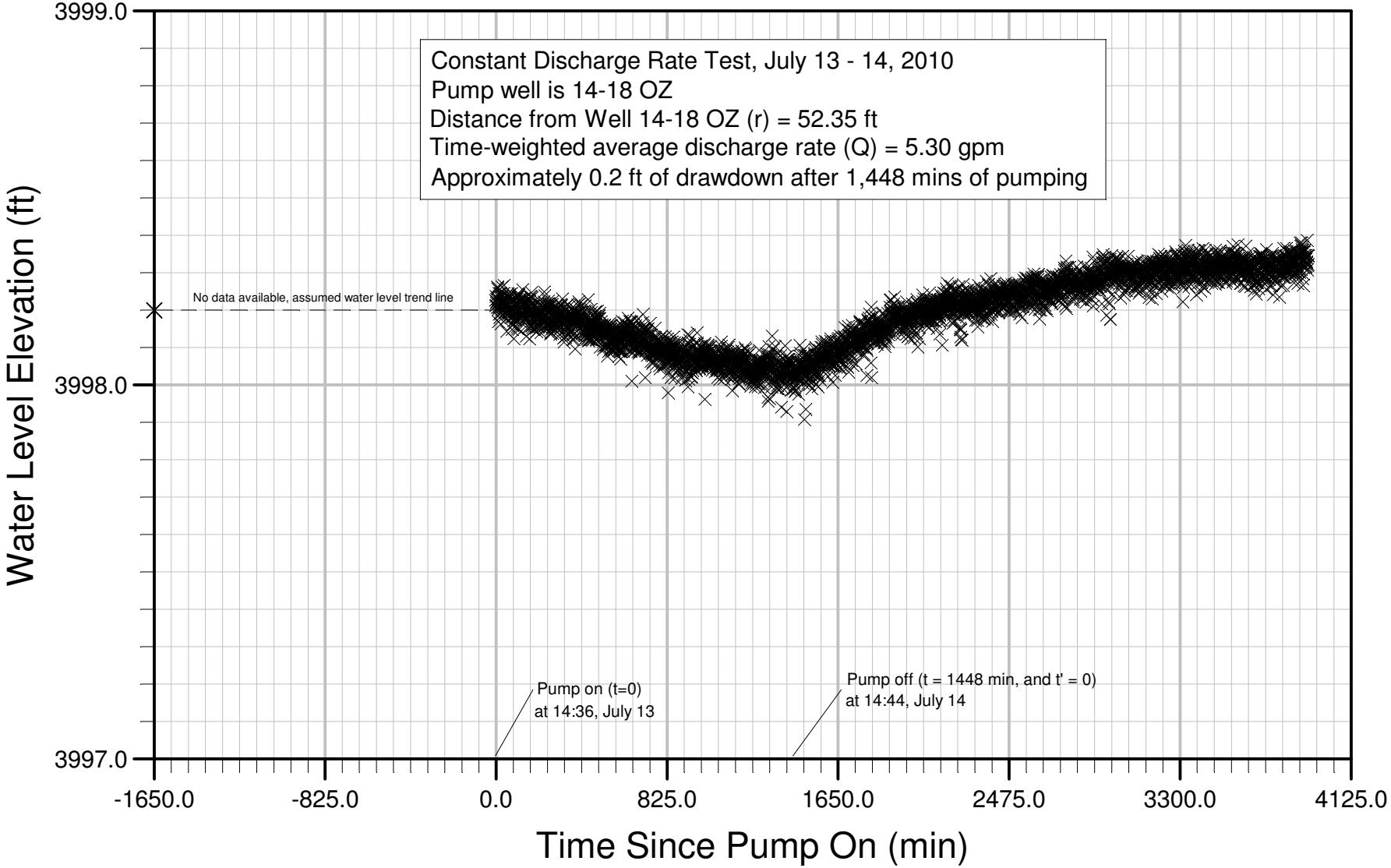
Theis Recovery Method



Hydrograph of Observation Well 14-18 SM



Hydrograph of Observation Well 14-18 DM



Appendix 5
21-19 Well Cluster
July 15, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. 21-19 OZ Observation Well No's. 21-19 SA, 21-19 SM, 21-19 DM

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 21-19 SA = 55.23', 21-19 SM = 72.03', 21-19 DM = 44.48'

Water Level Measurements by: ☒ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

(6 gpm Dole valve used)

Screen/Perforation Interval(s) (below land surface) 433' – 468'

Depth of Pump Intake (below land surface) 403 feet (dedicated 2 h.p.)

Depth of Static Water Level (from measurement point) 214.35 feet

Height of Measurement Point (above land surface) 1.38 feet

Elevation of Measurement Point 4,168.54 feet a.m.s.l.

Pump On Date 07 / 15 / 2010 Time 0950 (AM)/PM

Pump Off Date 07 / 16 / 2010 Time 1010 (AM)/PM

Weather Conditions Dry, breezy, clear, high 80's ° F

Test Performed by Rogers, Evers

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY Well No. 21-19 OZ

TIME			WATER LEVEL DATA			
Date	Clock Time	(t) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(s) Drawdown/ Recovery (ft)	(Q) Discharge (gpm)	COMMENTS
7-15-10	0950	ON, 0	214.35	0	5.88	5 gal/51 sec., pressure gauge @ 70 psi
	0952	2	230.25	15.90		
	0953	3	233.00	18.65		
	0954	4	235.13	20.78		
	0955	5	237.30	22.95		
	0956	6	238.68	24.33	5.88	5 gal/51 sec.
	0957	7	239.93	25.58		
	0958	8	241.32	26.97		
	0959	9	242.12	27.77		
	1000	10	242.77	28.42	5.88	5 gal/51 sec.
	1002	12	244.18	29.83		
	1004	14	244.98	30.63		
	1006	16	245.91	31.56		
	1008	18	246.48	32.13		
	1010	20	246.82	32.47	5.77	5 gal/52 sec.
	1012	22	247.34	32.99		
	1014	24	247.41	33.06		
	1016	26	247.75	33.40	5.77	5 gal/52 sec.

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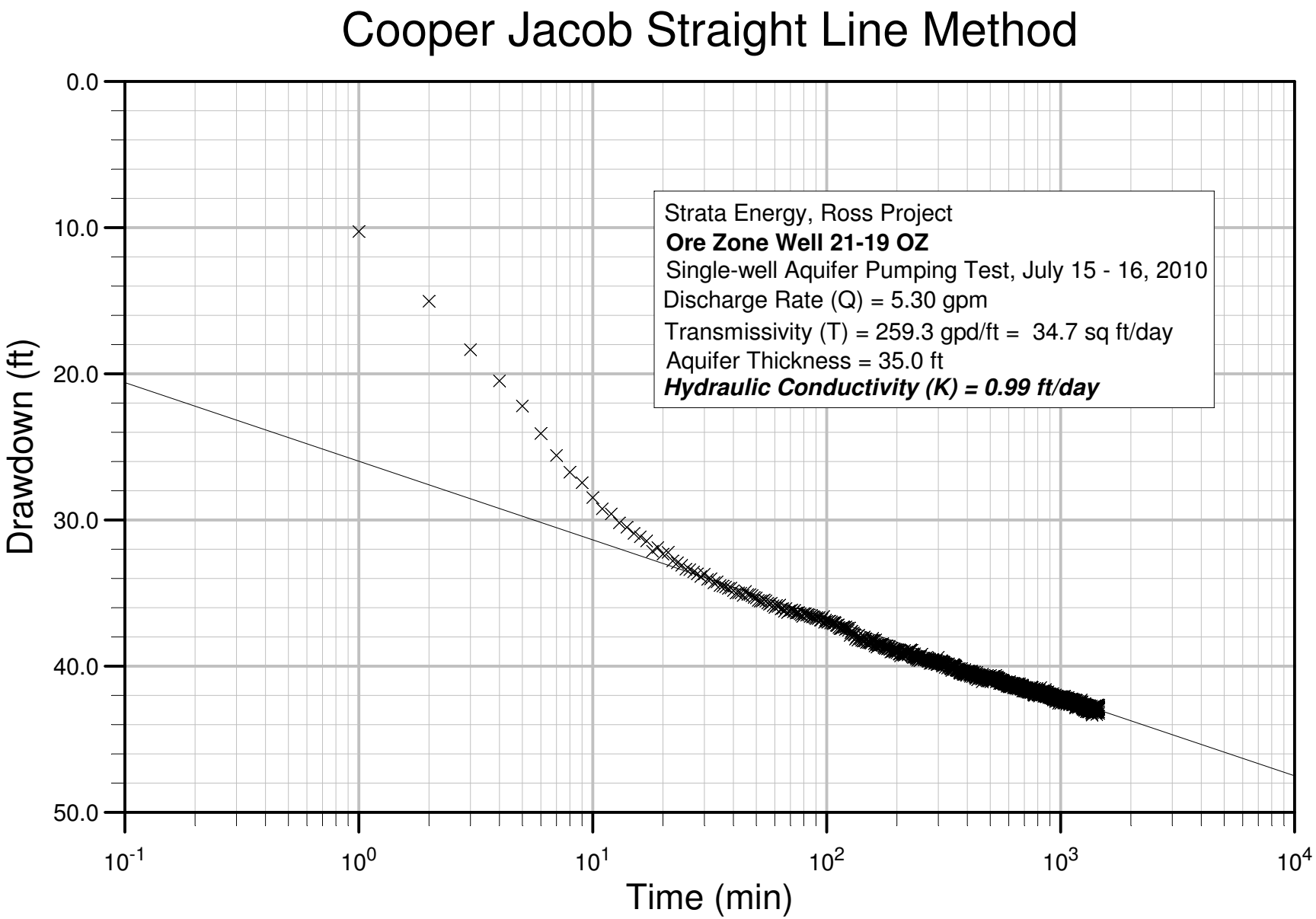
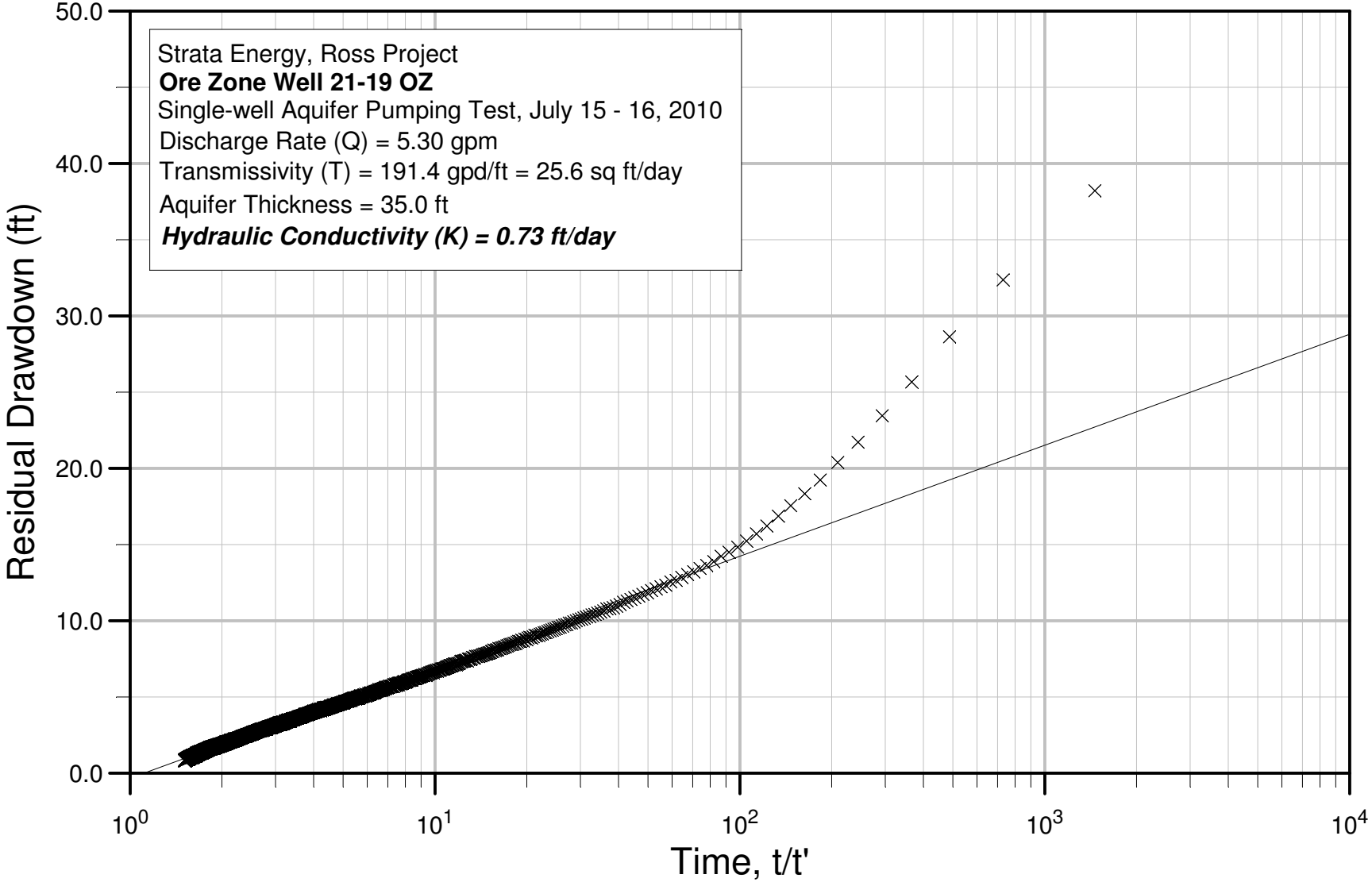
AQUIFER TEST FIELD DATA

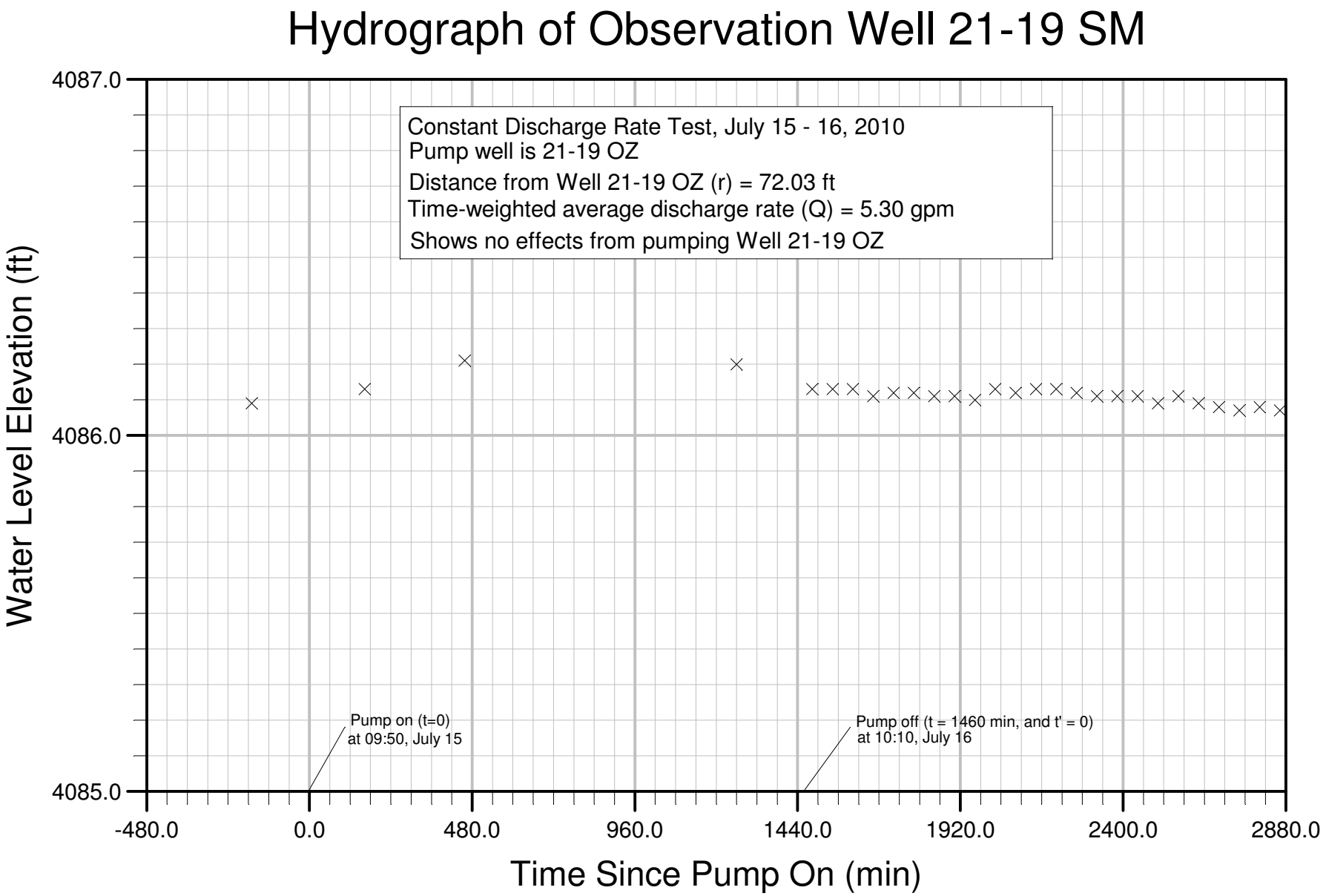
Project/Client ROSS/STRATA ENERGY Well No. 21-19 OZ

TIME			WATER LEVEL DATA			
Date	Clock Time	(t) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(s) Drawdown/ Recovery (ft)	(Q) Discharge (gpm)	COMMENTS
7-15-10	1020	30	248.55	34.20		
	1025	35	249.04	34.69	5.66	5 gal/53 sec.
	1030	40	249.33	34.98		
	1035	45	249.58	35.23		
	1040	50	249.89	35.54		
	1050	60	250.26	35.91	5.77	5 gal/52 sec.
	1155	125	251.81	37.46	5.56	5 gal/54 sec.
	1230	160	252.67	38.32		
	1250	180	253.09	38.74		
	1350	240	253.51	39.16	5.26	5 gal/57 sec.
	1450	300	254.46	40.11	5.45	5 gal/55 sec.
	1550	360	254.74	40.39	5.45	5 gal/55 sec.
	1630	400	254.95	40.60	5.36	5 gal/56 sec.
	1810	500	255.23	40.88	5.36	5 gal/56 sec.
	1850	540	255.49	41.14	5.26	5 gal/57 sec.
7-16-10	0630	1240	257.36	43.01	5.17	5 gal/58 sec.
	0650	1260	257.51	43.16	5.17	5 gal/58 sec.
	0950	1440	257.51	43.16	5.17	5 gal/58 sec.
	1010	OFF, 1460				Water quality sample collected. Recovery data recorded by pressure transducer.

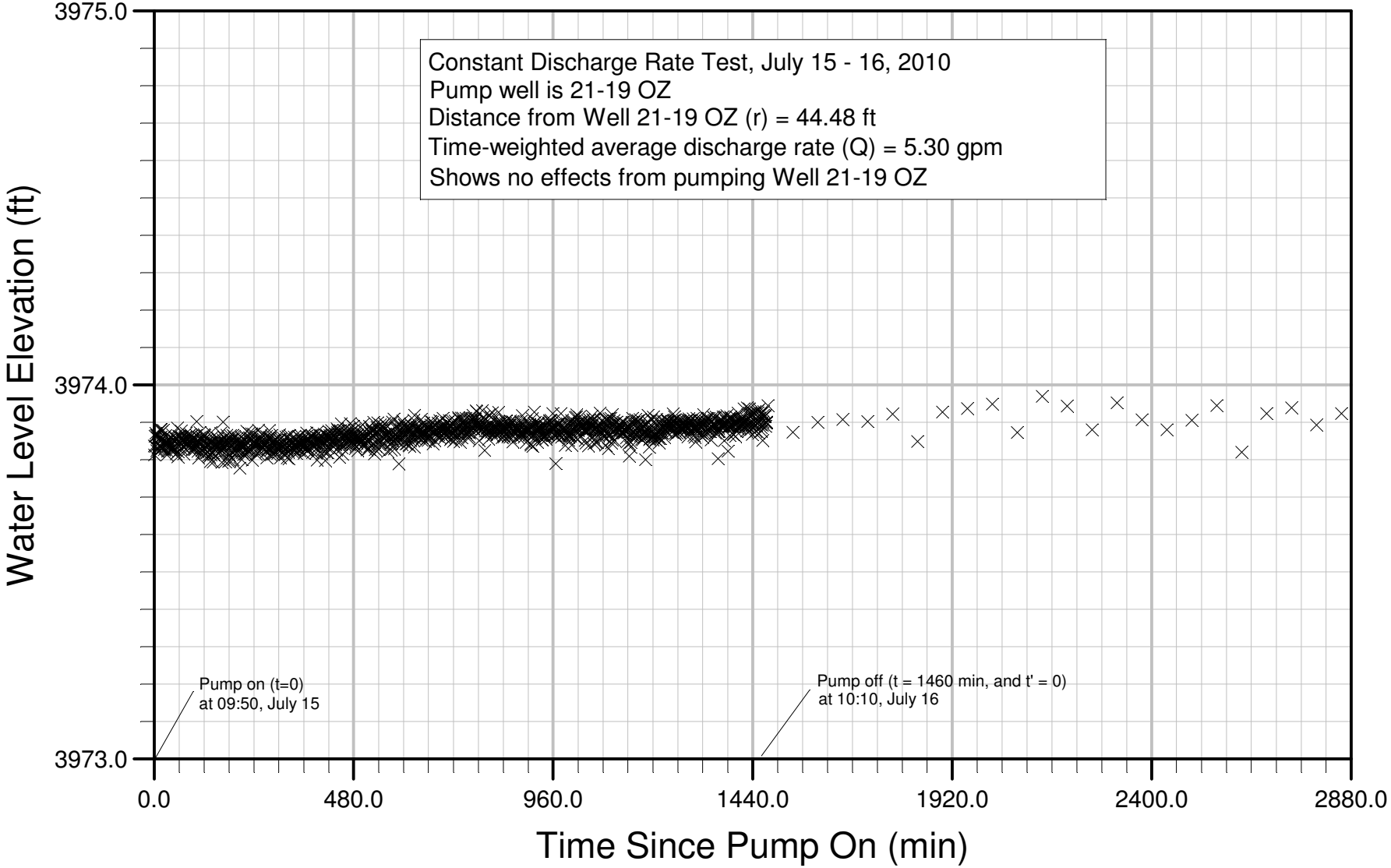

Cooper Jacob Straight Line Method
Strata Energy, Ross Project
Ore Zone Well 21-19 OZ
Single-well Aquifer Pumping Test, July 15 - 16, 2010
Discharge Rate (Q) = 5.30 gpm
Transmissivity (T) = 259.3 gpd/ft = 34.7 sq ft/day
Aquifer Thickness = 35.0 ft
Hydraulic Conductivity (K) = 0.99 ft/day
Drawdown (ft)
0.0
10.0
20.0
30.0
40.0
50.0
Time (min)
10-1
100
101
102
103
104

Theis Recovery Method




Hydrograph of Observation Well 21-19 SM
Constant Discharge Rate Test, July 15 - 16, 2010
Pump well is 21-19 OZ
Distance from Well 21-19 OZ (r) = 72.03 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
Shows no effects from pumping Well 21-19 OZ
Pump on (t=0)
at 09:50, July 15
Pump off (t = 1460 min, and t' = 0)
at 10:10, July 16
Water Level Elevation (ft)
4087.0
4086.0
4085.0
-480.0
0.0
480.0
960.0
1440.0
1920.0
2400.0
2880.0
Time Since Pump On (min)

Hydrograph of Observation Well 21-19 DM



Appendix 6
12-18 Well Cluster
(12-18 OZ Pumping Well)
July 21, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. 12-18 OZ Observation Well No's.

12-18 SA	OW1B57-1
12-18 SM	OW1B58-1
12-18 DM	OW1B60-1

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 12-18 SA = 47.80', 12-18 SM = 71.00', 12-18 DM = 48.55', OW1B57-1 = 71.00', OW1B58-1 = 70.05', OW1B60-1 = 70.25'

Water Level Measurements by: ☒ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

(5gpm Dole valve used)

Screen/Perforation Interval(s) (below land surface) 474' – 584'

Depth of Pump Intake (below land surface) 444 feet (dedicated 2 h.p.)

Depth of Static Water Level (from measurement point) 170.74 feet

Height of Measurement Point (above land surface) 1.43 feet

Elevation of Measurement Point 4,188.07 feet a.m.s.l.

Pump On Date 07 / 21 / 2010 Time 0921 (AM)/PM

Pump Off Date 07 / 24 / 2010 Time 1000 (AM)/PM

Weather Conditions Dry, calm, 70's-80's ° F, sunny

Test Performed by Collier, Rogers, Fuller, Evers, Schiffer

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY Well No. 12-18 OZ

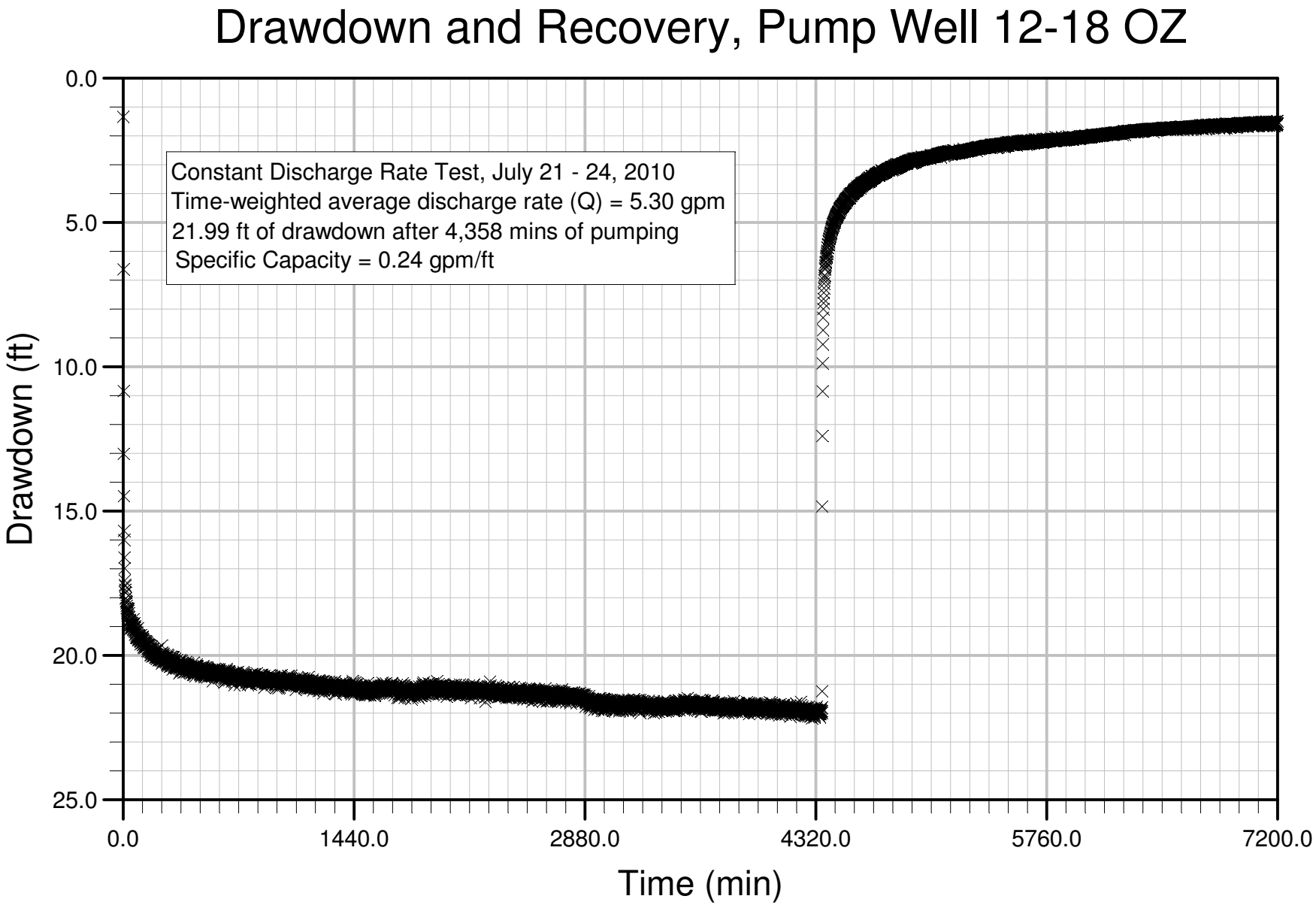
TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-21-10	0921	ON, 0	170.74	0		Pressure gauge @ 75psi
	0925	4	184.65	13.91		
	0927	6	186.78	16.04	5.77	5 gal/52 sec.
	0931	10	188.23	17.49		
	0933	12	188.45	17.71		
	0936	15	188.58	17.84		
	0940	19	189.04	18.30		
	0947	26	189.22	18.48	5.36	5gal/56 sec.
	1015	54	189.89	19.15		
	1026	65	189.98	19.24		
	1058	97	190.10	19.36		
	1110	109	190.29	19.55	5.36	5gal/56 sec.
	1125	124	190.42	19.68		
	1149	148	190.46	19.74	5.36	5gal/56 sec. @ 72psi
	1220	179	190.63	19.89		
	1300	219	190.81	20.07		
	1321	240	191.03	20.29		H_20 quality sample collected
	1430	309	191.10	20.36		

WWC ENGINEERING

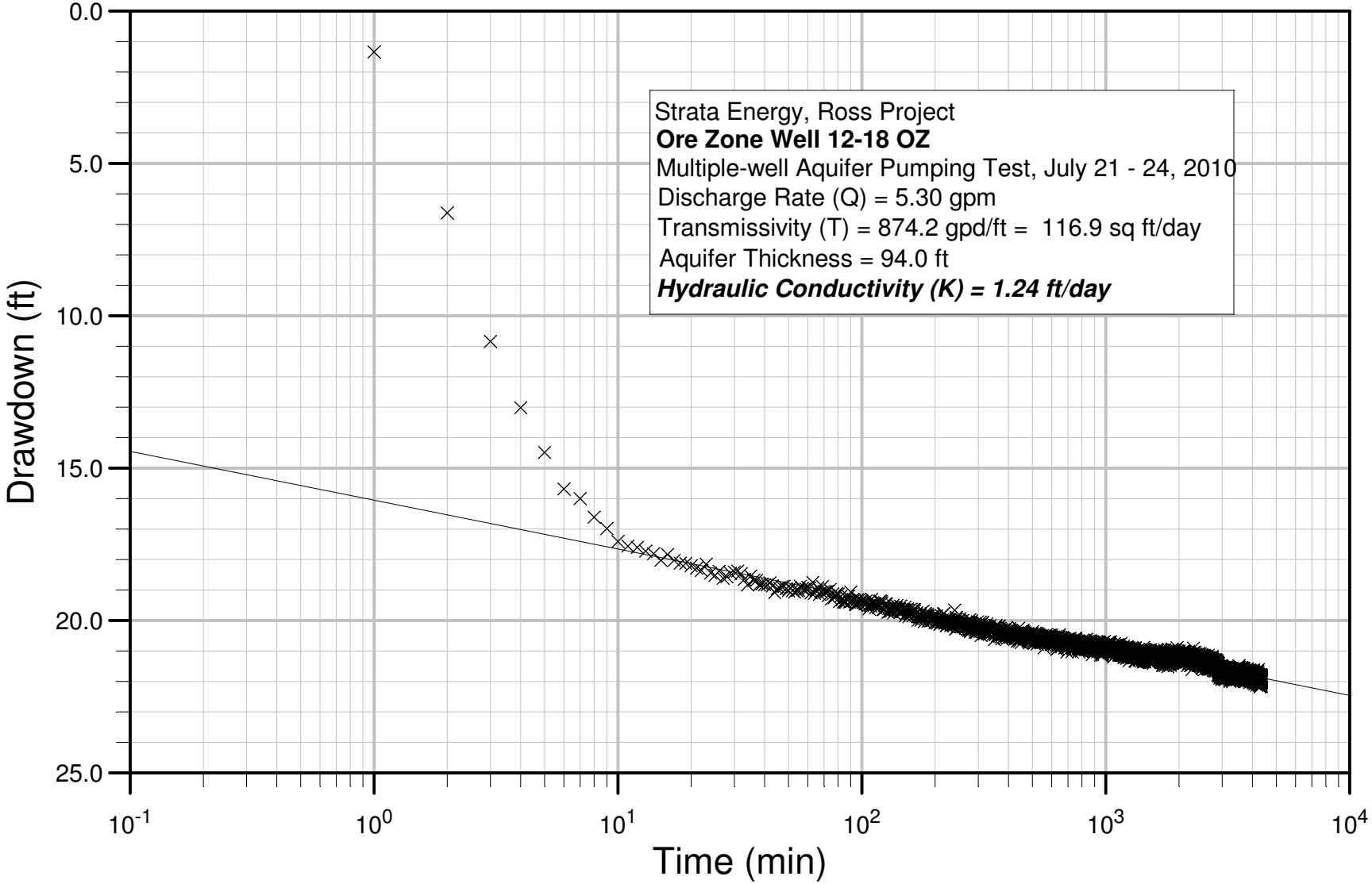
AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY Well No. 12-18 OZ

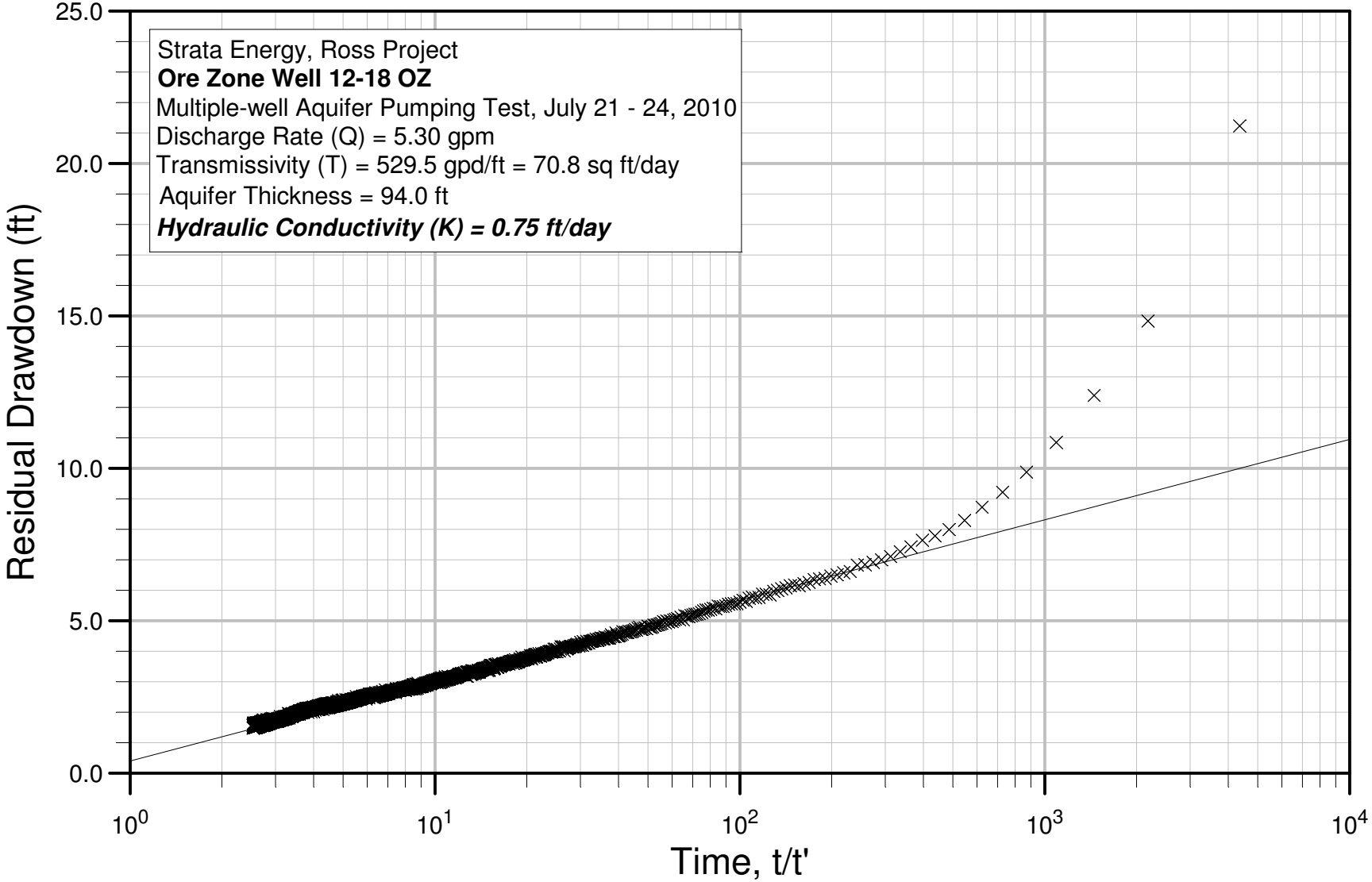
TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth to Water Below M.P. (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-21-10	1513	352	191.28	20.54	5.36	5 gal/56 sec. @ 72psi
	1702	461	191.39	20.65	5.36	
7-22-10	0818	1377	192.02	21.28	5.26	5 gal/57 sec. @ 72psi
	0920	1439	192.09	21.35	5.26	5 gal/57 sec. H_20 quality sampled.
	1200	1599	191.99	21.25	5.17	5 gal/58 sec.
	1357	1716	192.04	21.30	5.17	5 gal/58 sec.
	1627	1866	192.08	21.34	5.17	5 gal/58 sec. @ 72psi
7-23-10	0919	2319	192.59	21.85	5.00	5 gal/60 sec. @ 70psi
	0951	2351	192.59	21.85	5.17	Pressure increase to 75psi, 5 gal/58 sec.
7-24-10	0905	4304	191.67	20.93	5.00	5 gal/60 sec.
	0920	4319	191.63	20.89	5.00	
	0955	4354	191.68	20.94	5.00	5 gal/60 sec. @ 76psi
	1000	OFF, 4359	191.68	20.94	5.00	H_20 quality sample collected
						Recovery data recorded by pressure transducer.

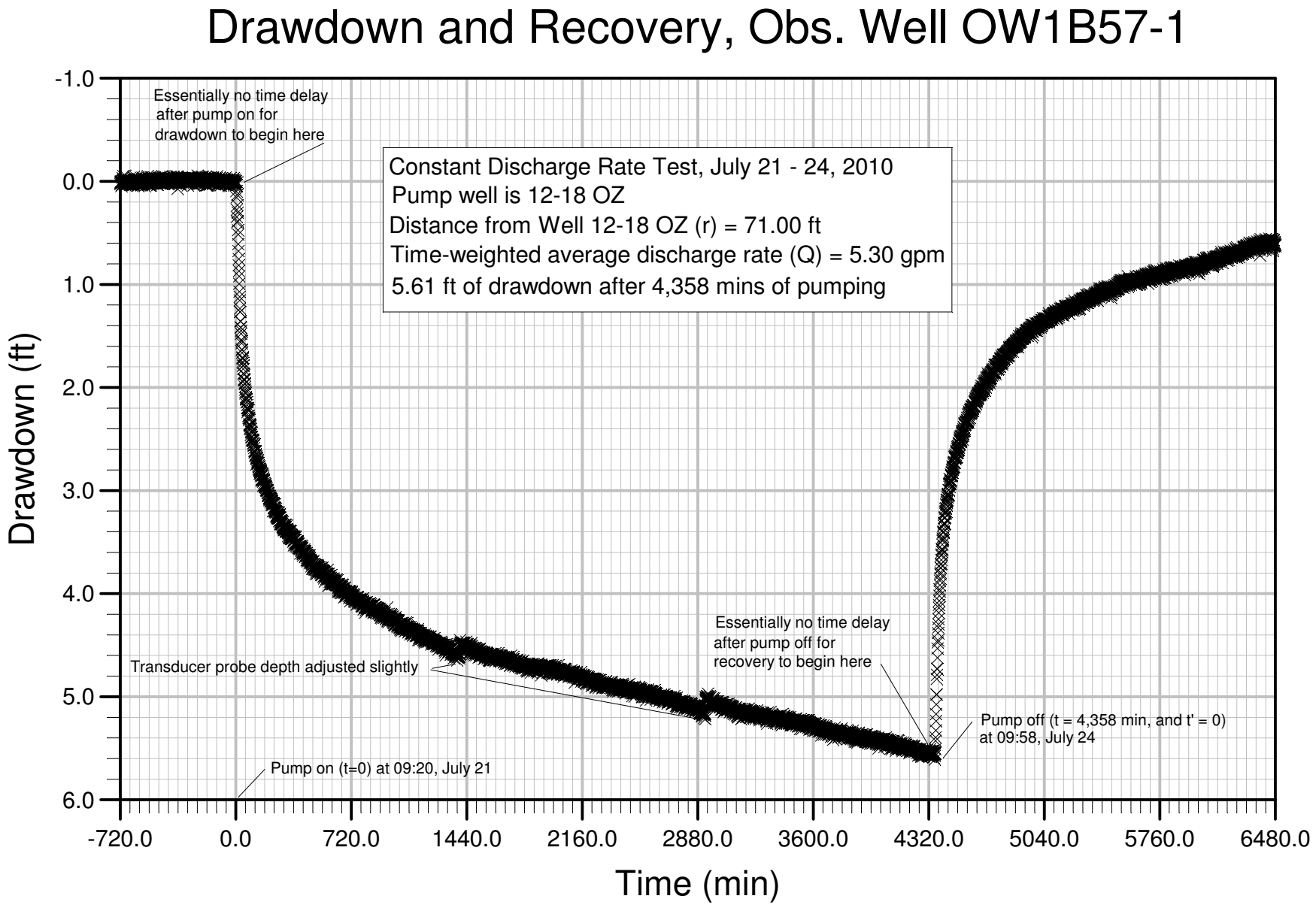

Drawdown and Recovery, Pump Well 12-18 OZ
Constant Discharge Rate Test, July 21 - 24, 2010
Time-weighted average discharge rate (Q) = 5.30 gpm
21.99 ft of drawdown after 4,358 mins of pumping
Specific Capacity = 0.24 gpm/ft
Drawdown (ft)
0.0
5.0
10.0
15.0
20.0
25.0
Time (min)
0.0
1440.0
2880.0
4320.0
5760.0
7200.0

Cooper Jacob Straight Line Method

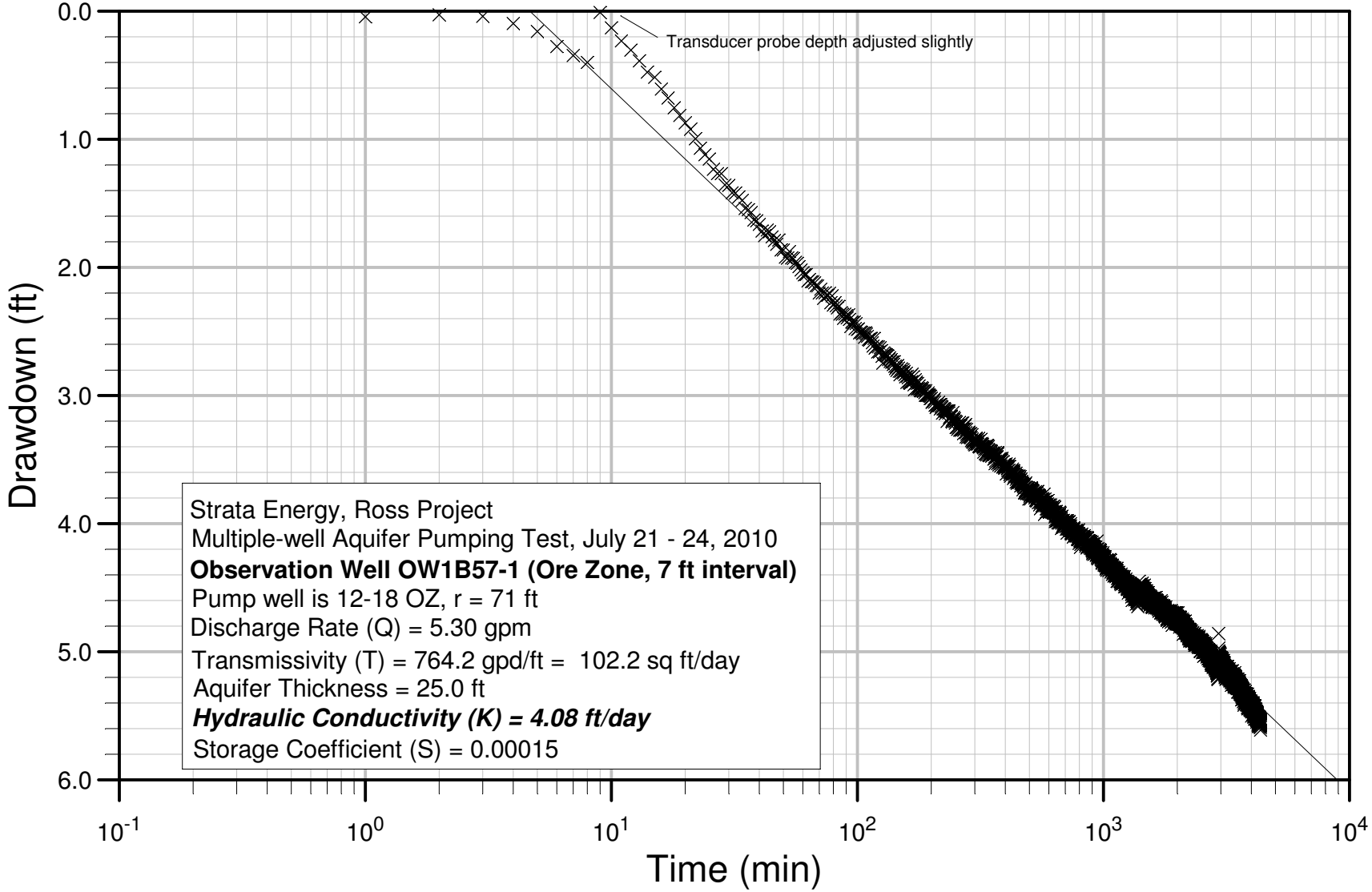


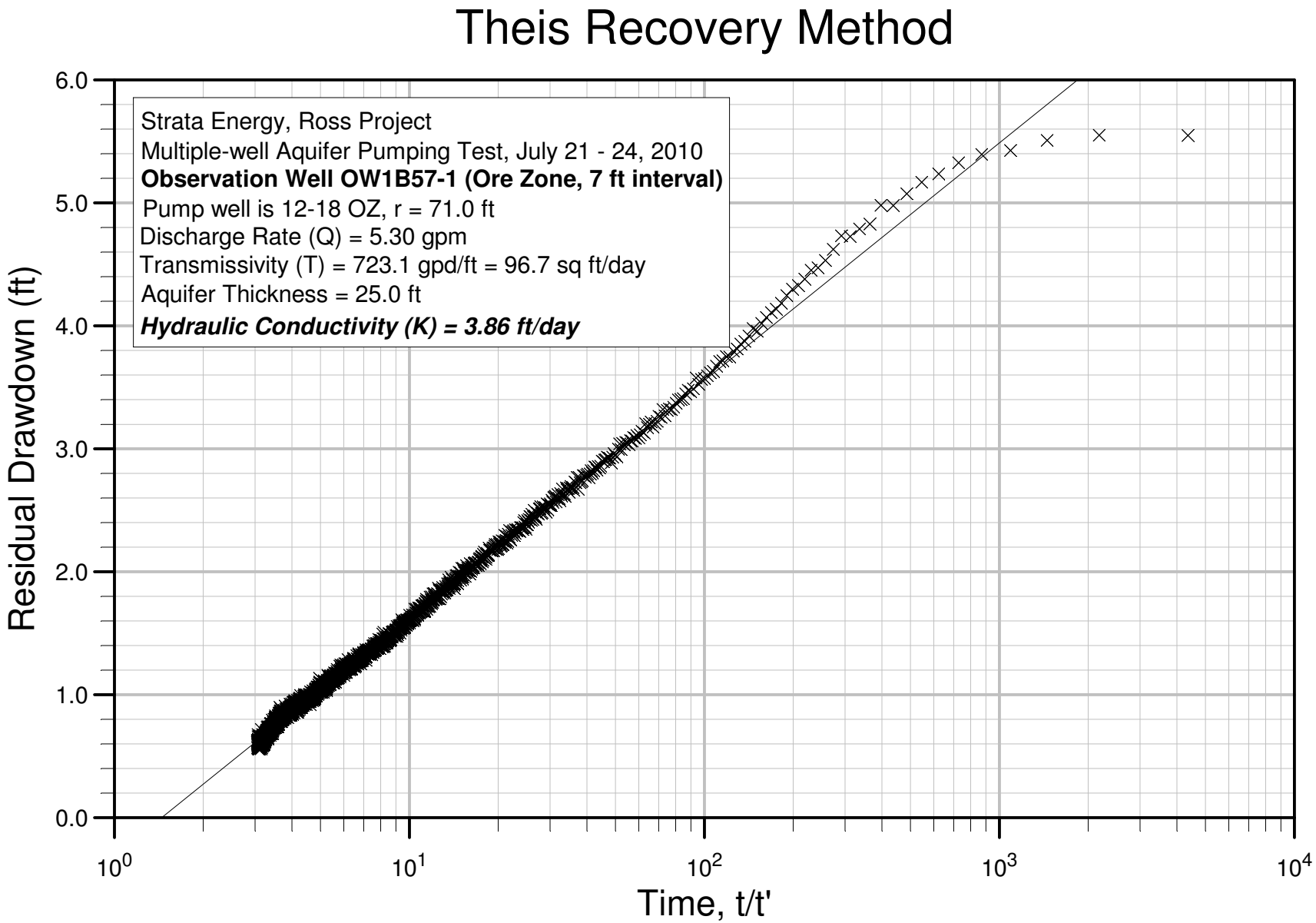
Theis Recovery Method



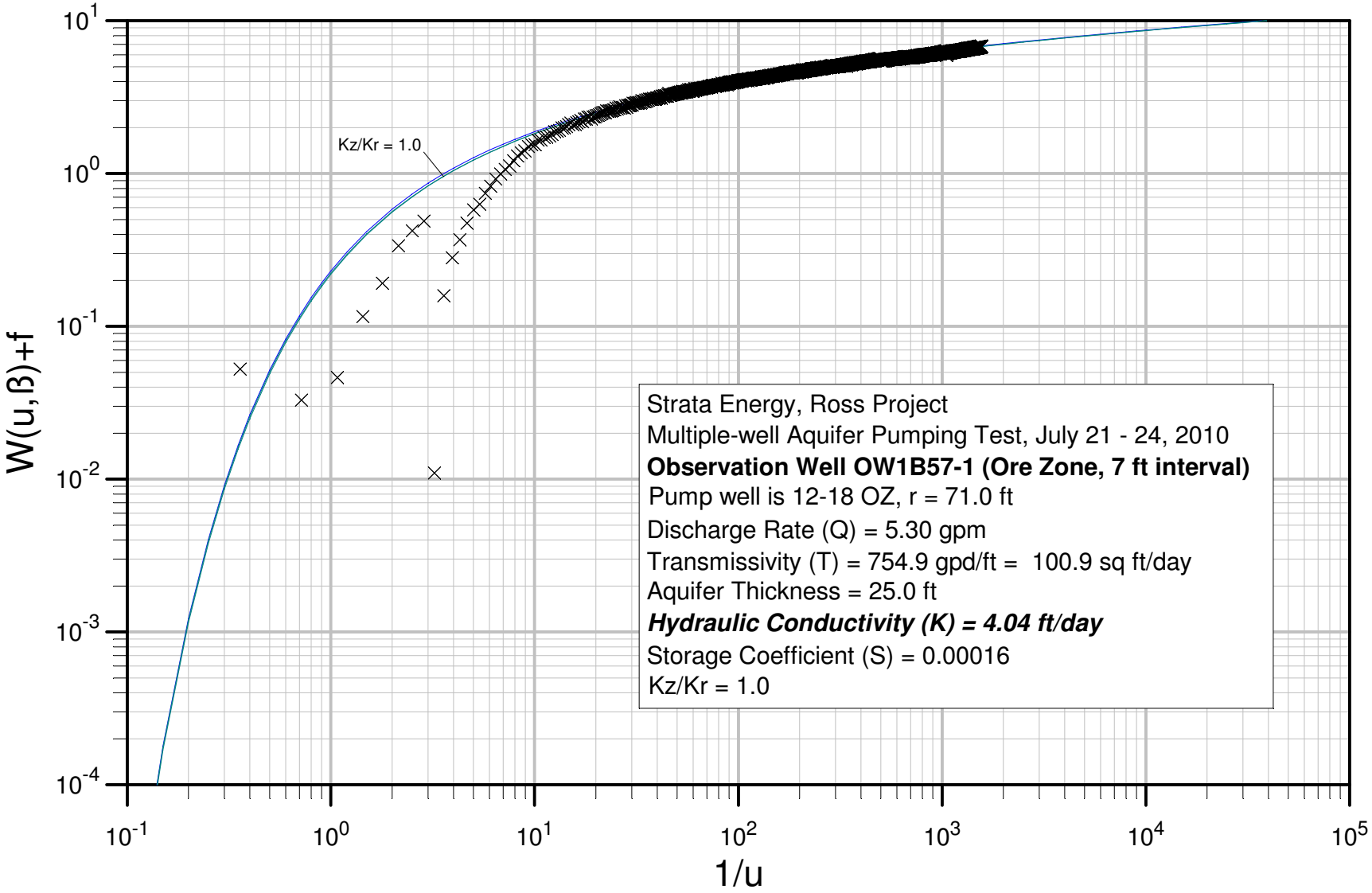

Drawdown and Recovery, Obs. Well OW1B57-1
Drawdown (ft)
Time (min)
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
4320.0
5040.0
5760.0
6480.0
Essentially no time delay after pump on for drawdown to begin here
Constant Discharge Rate Test, July 21 - 24, 2010
Pump well is 12-18 OZ
Distance from Well 12-18 OZ (r) = 71.00 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
5.61 ft of drawdown after 4,358 mins of pumping
Transducer probe depth adjusted slightly
Essentially no time delay after pump off for recovery to begin here
Pump off (t = 4,358 min, and t' = 0) at 09:58, July 24
Pump on (t=0) at 09:20, July 21

Cooper Jacob Straight Line Method

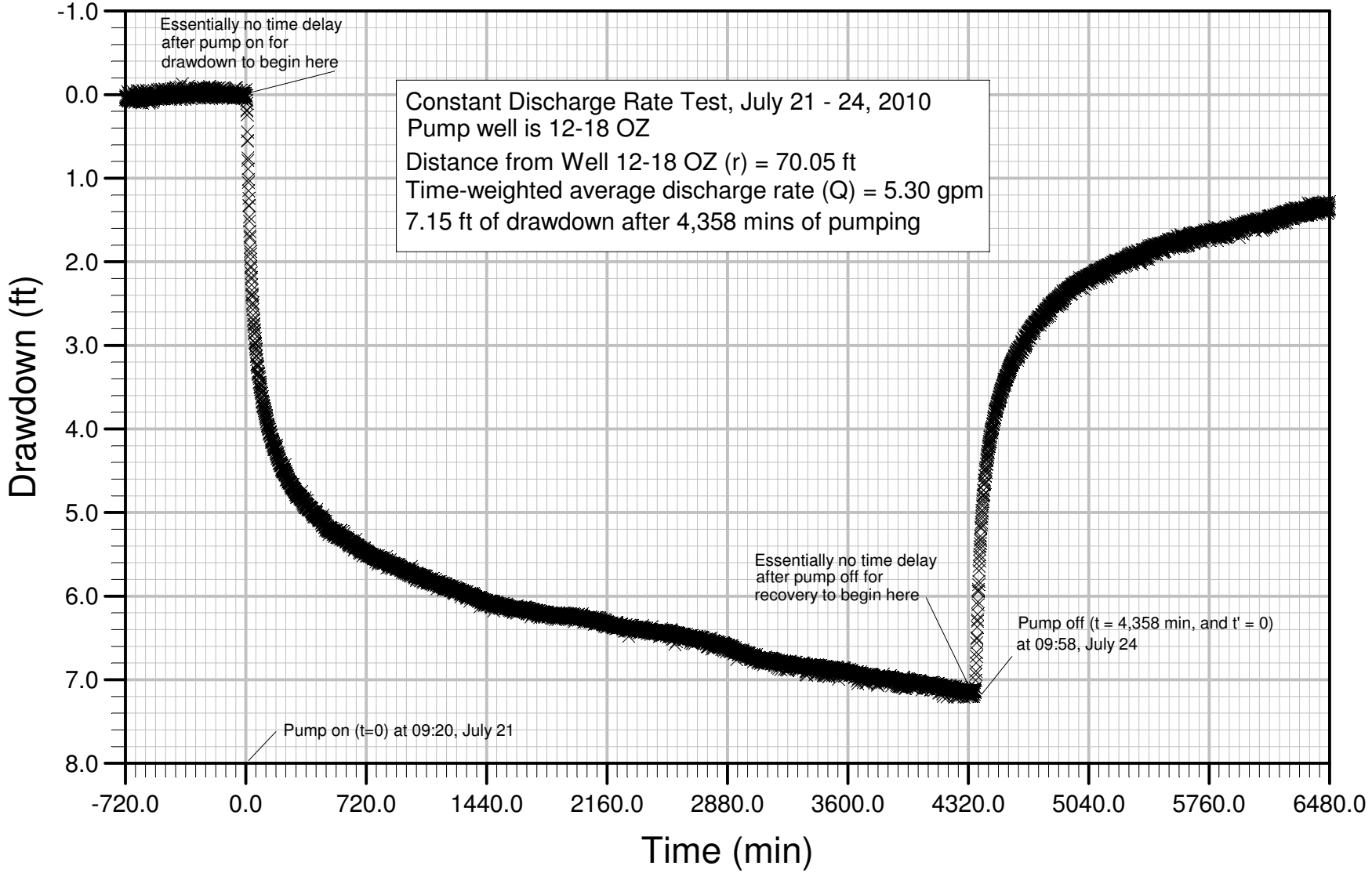



Theis Recovery Method
Strata Energy, Ross Project
Multiple-well Aquifer Pumping Test, July 21 - 24, 2010
Observation Well OW1B57-1 (Ore Zone, 7 ft interval)
Pump well is 12-18 OZ, r = 71.0 ft
Discharge Rate (Q) = 5.30 gpm
Transmissivity (T) = 723.1 gpd/ft = 96.7 sq ft/day
Aquifer Thickness = 25.0 ft
Hydraulic Conductivity (K) = 3.86 ft/day
Residual Drawdown (ft)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
10^0
10^1
10^2
10^3
10^4
Time, t/t'

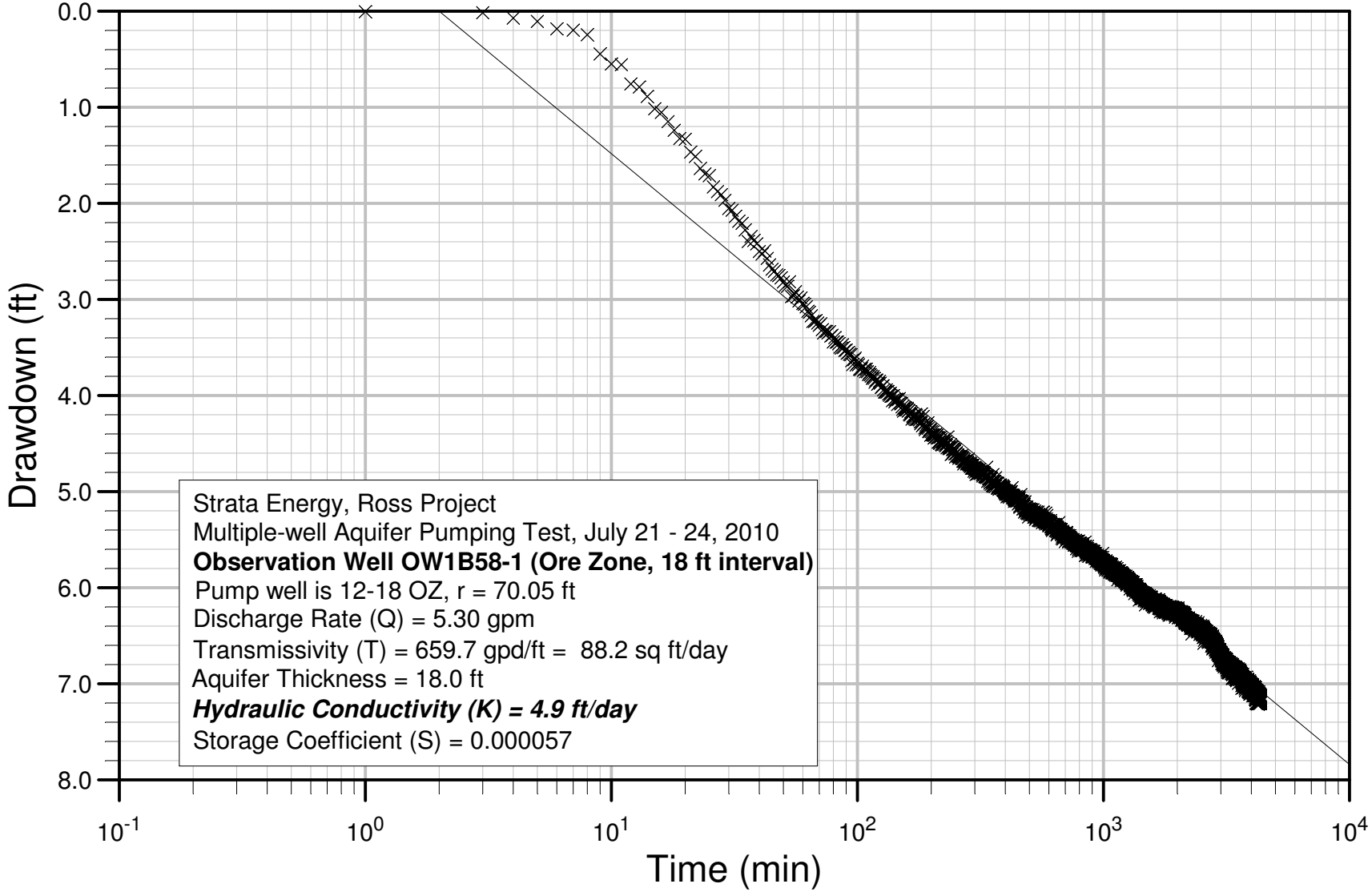
Hantush, 1961 (Confined Partial Penetration Method)



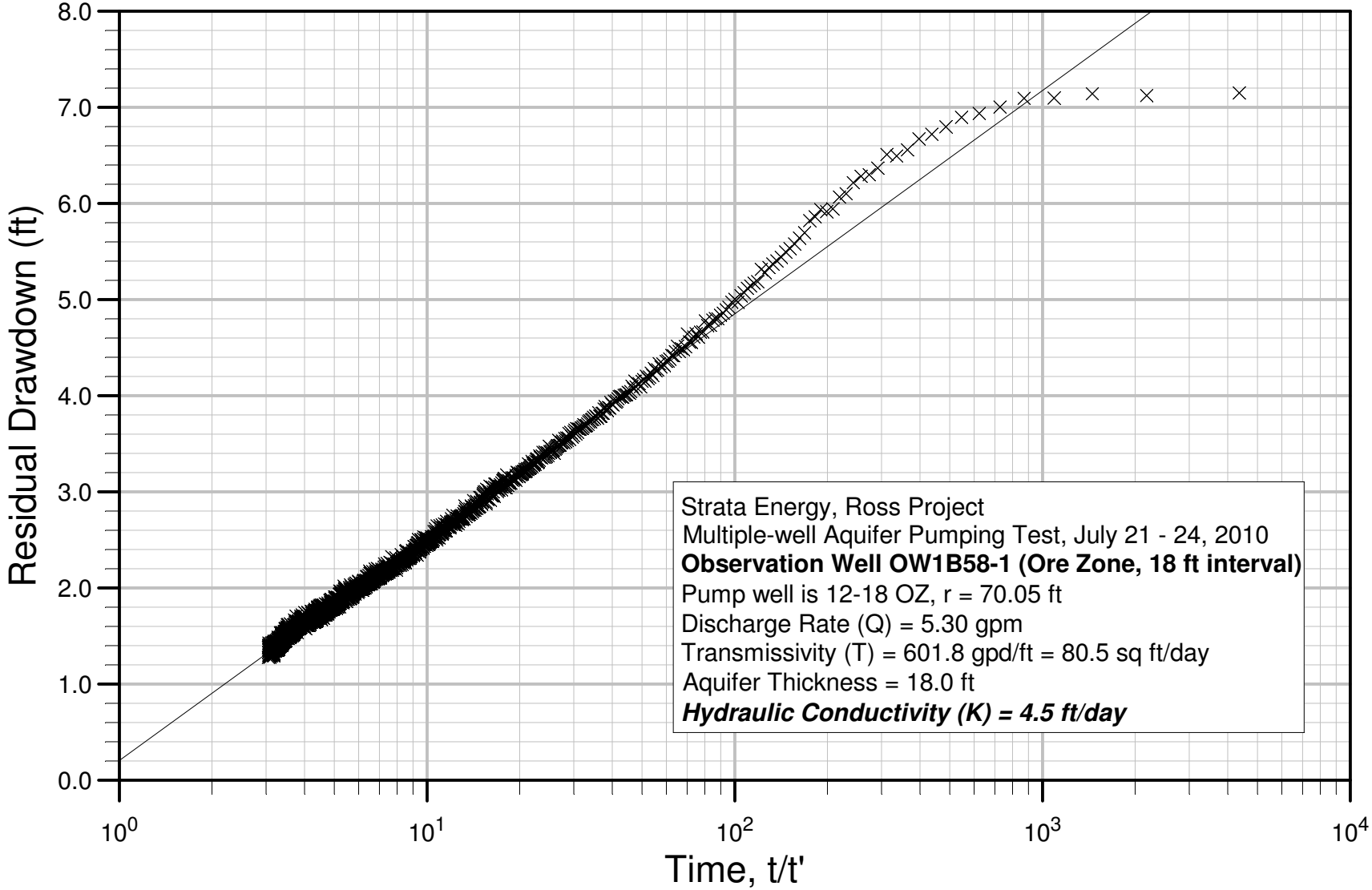
Drawdown and Recovery, Obs. Well OW1B58-1



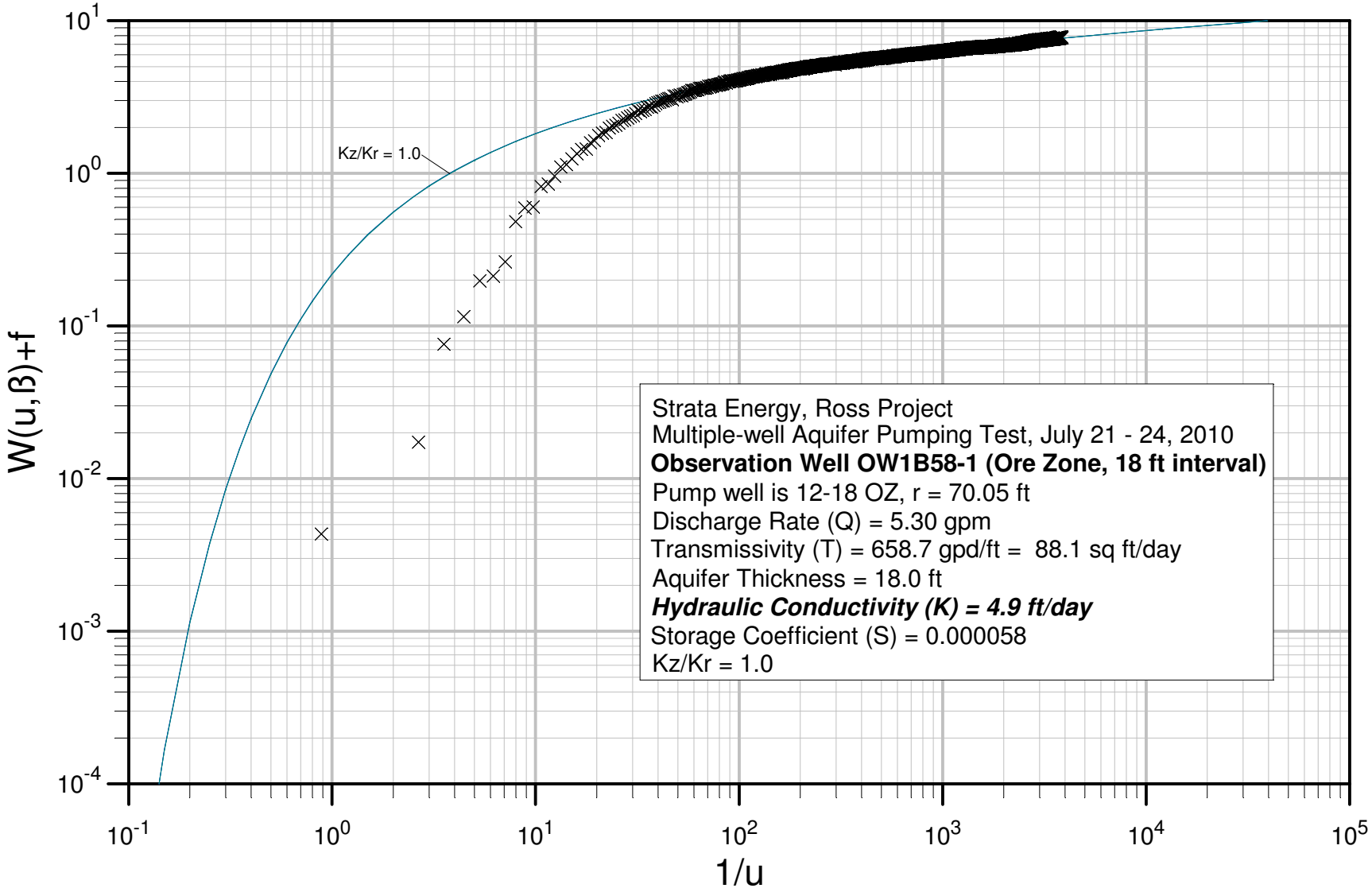
Cooper Jacob Straight Line Method

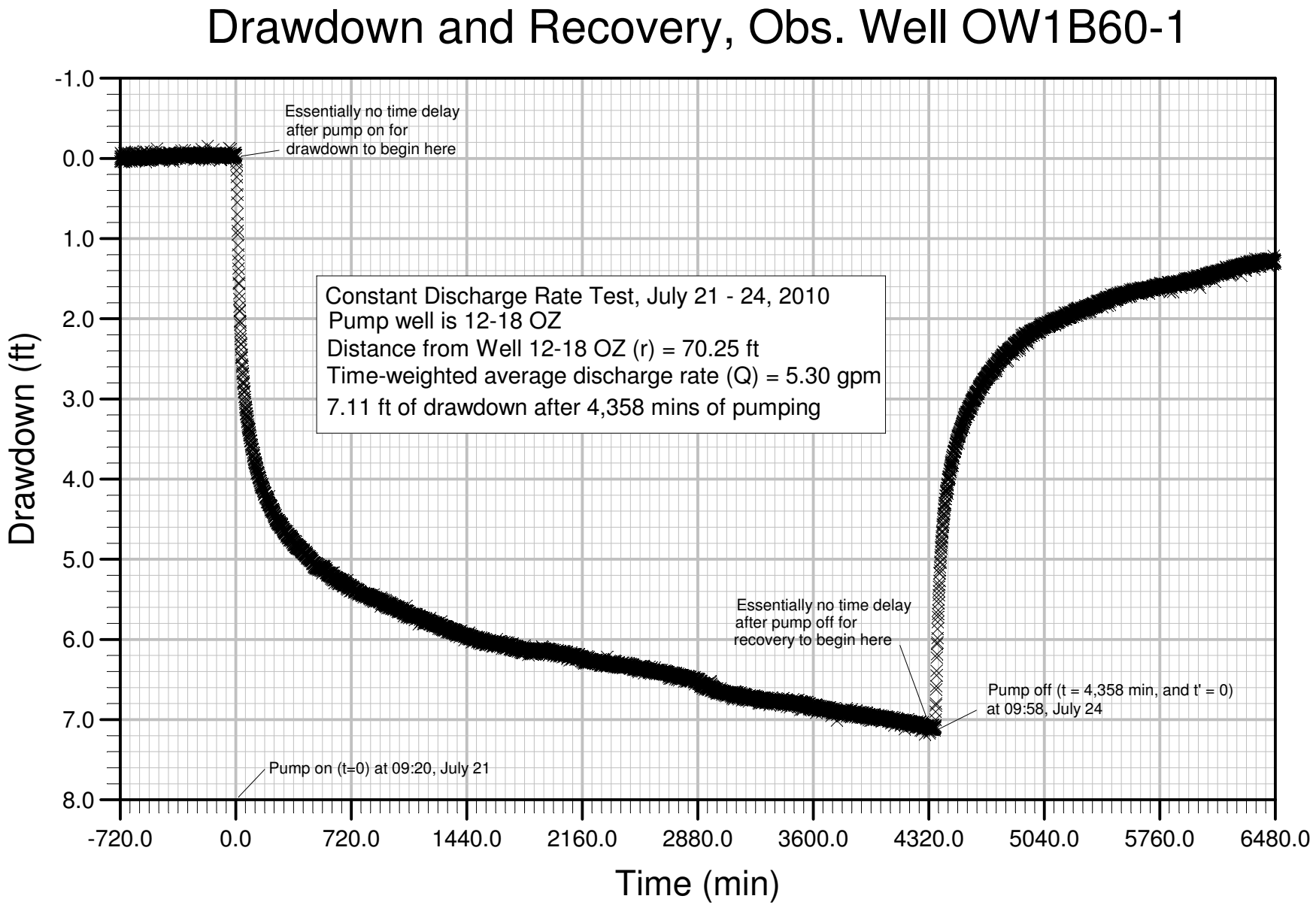


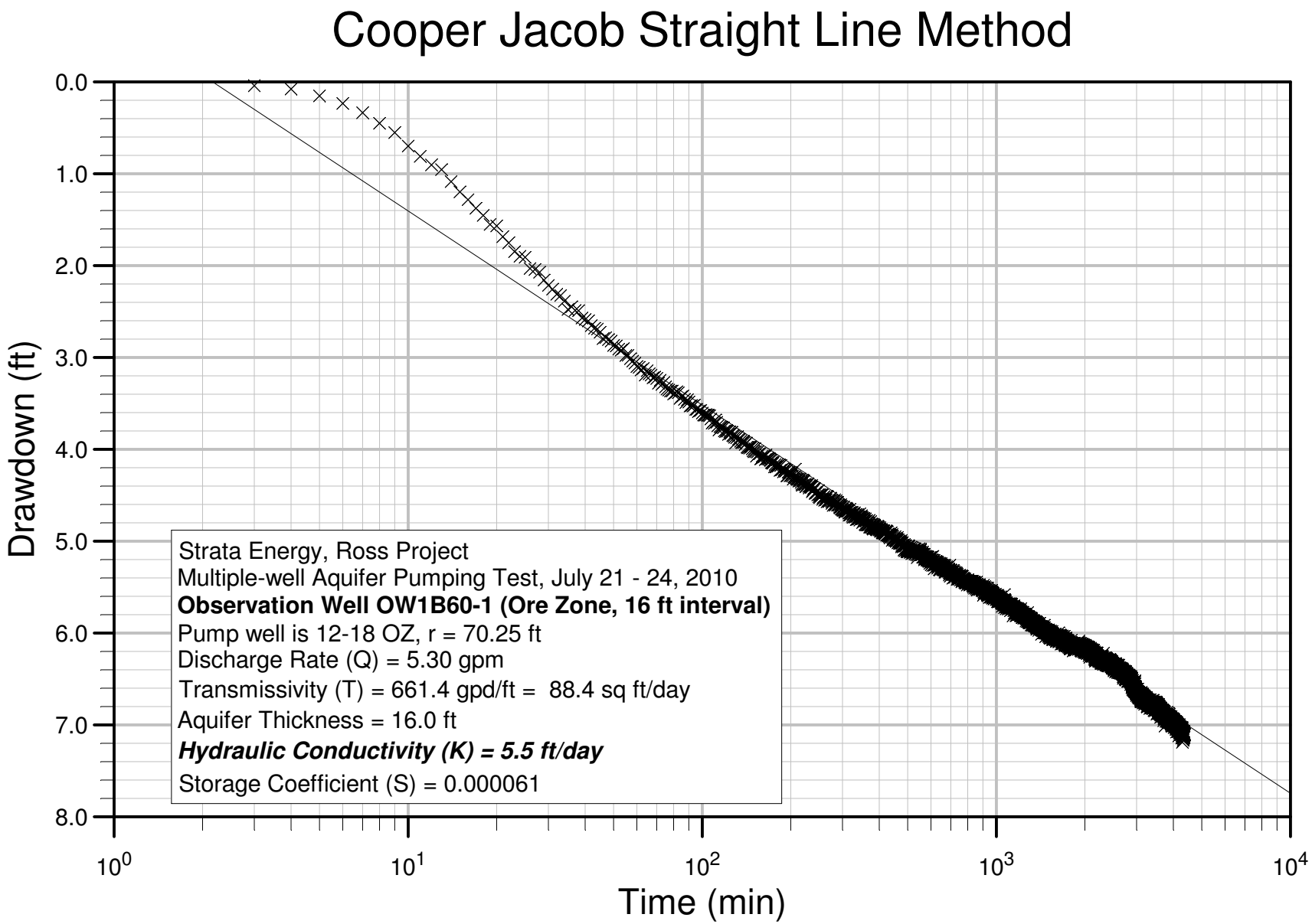
Theis Recovery Method



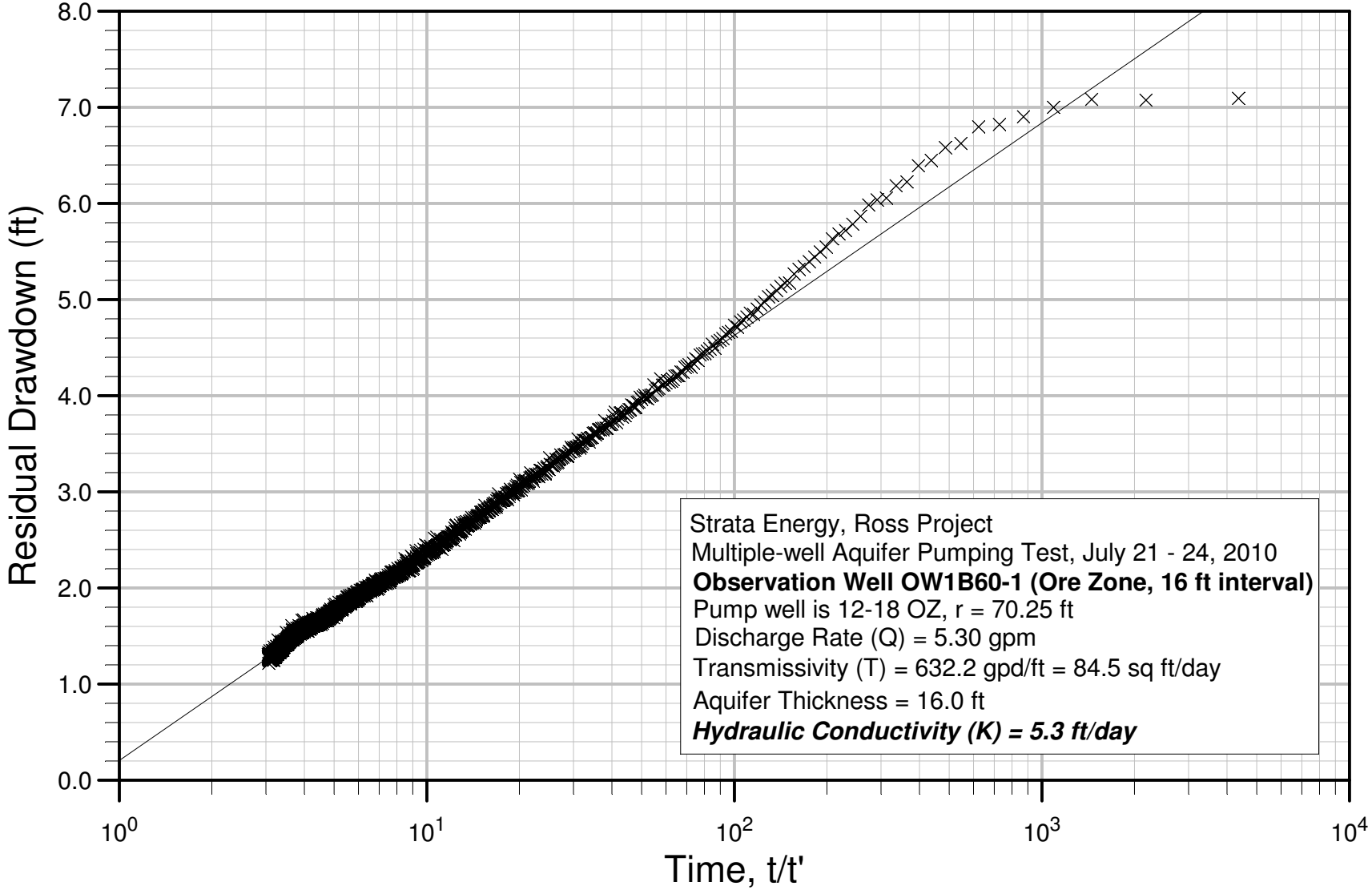
Hantush, 1961 (Confined Partial Penetration Method)



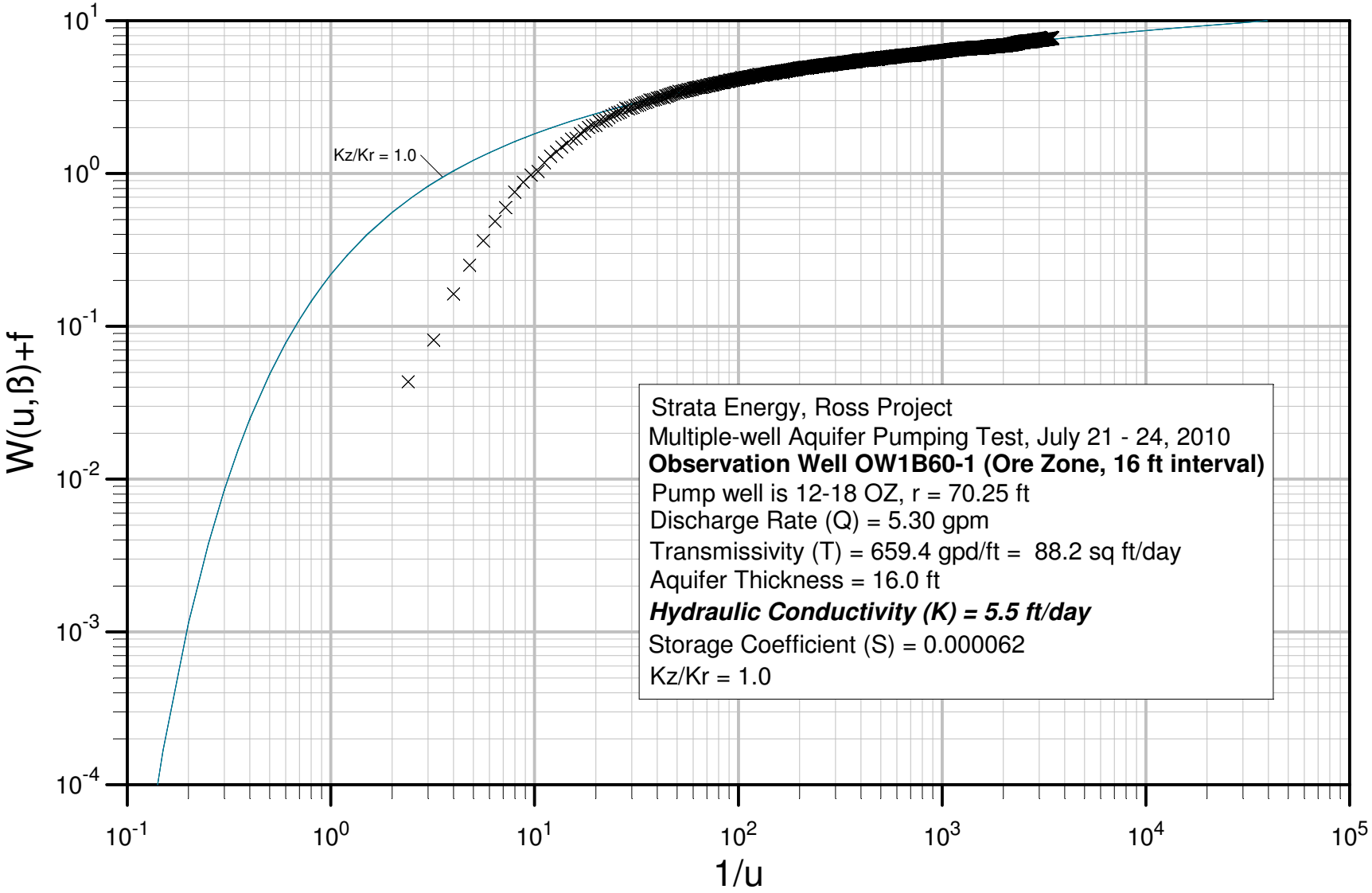

Drawdown and Recovery, Obs. Well OW1B60-1
Drawdown (ft)
Time (min)
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
4320.0
5040.0
5760.0
6480.0
Essentially no time delay after pump on for drawdown to begin here
Constant Discharge Rate Test, July 21 - 24, 2010
Pump well is 12-18 OZ
Distance from Well 12-18 OZ (r) = 70.25 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
7.11 ft of drawdown after 4,358 mins of pumping
Essentially no time delay after pump off for recovery to begin here
Pump off (t = 4,358 min, and t' = 0) at 09:58, July 24
Pump on (t=0) at 09:20, July 21

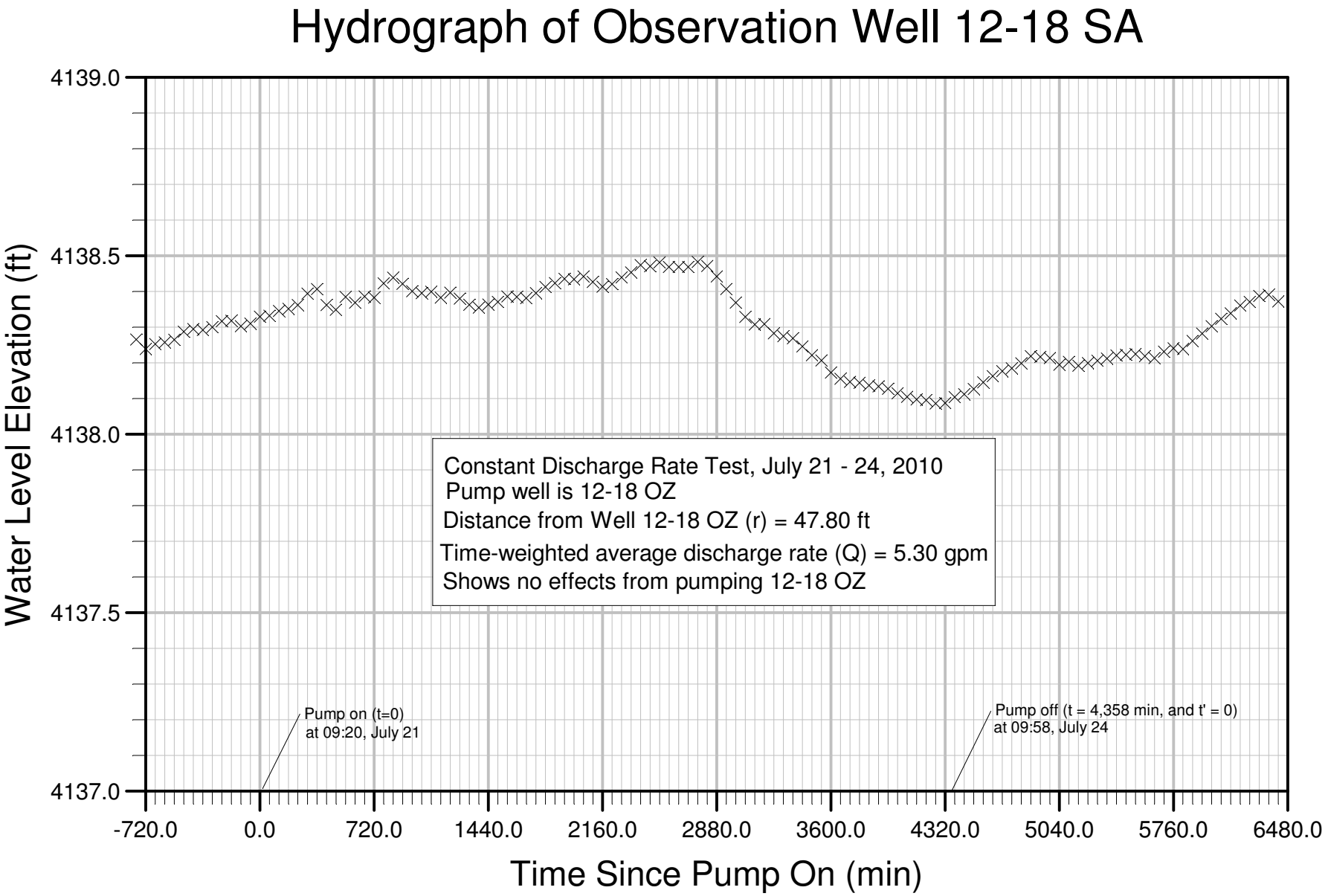

Cooper Jacob Straight Line Method
Drawdown (ft)
Time (min)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
10^0
10^1
10^2
10^3
10^4
Strata Energy, Ross Project
Multiple-well Aquifer Pumping Test, July 21 - 24, 2010
Observation Well OW1B60-1 (Ore Zone, 16 ft interval)
Pump well is 12-18 OZ, r = 70.25 ft
Discharge Rate (Q) = 5.30 gpm
Transmissivity (T) = 661.4 gpd/ft = 88.4 sq ft/day
Aquifer Thickness = 16.0 ft
Hydraulic Conductivity (K) = 5.5 ft/day
Storage Coefficient (S) = 0.000061

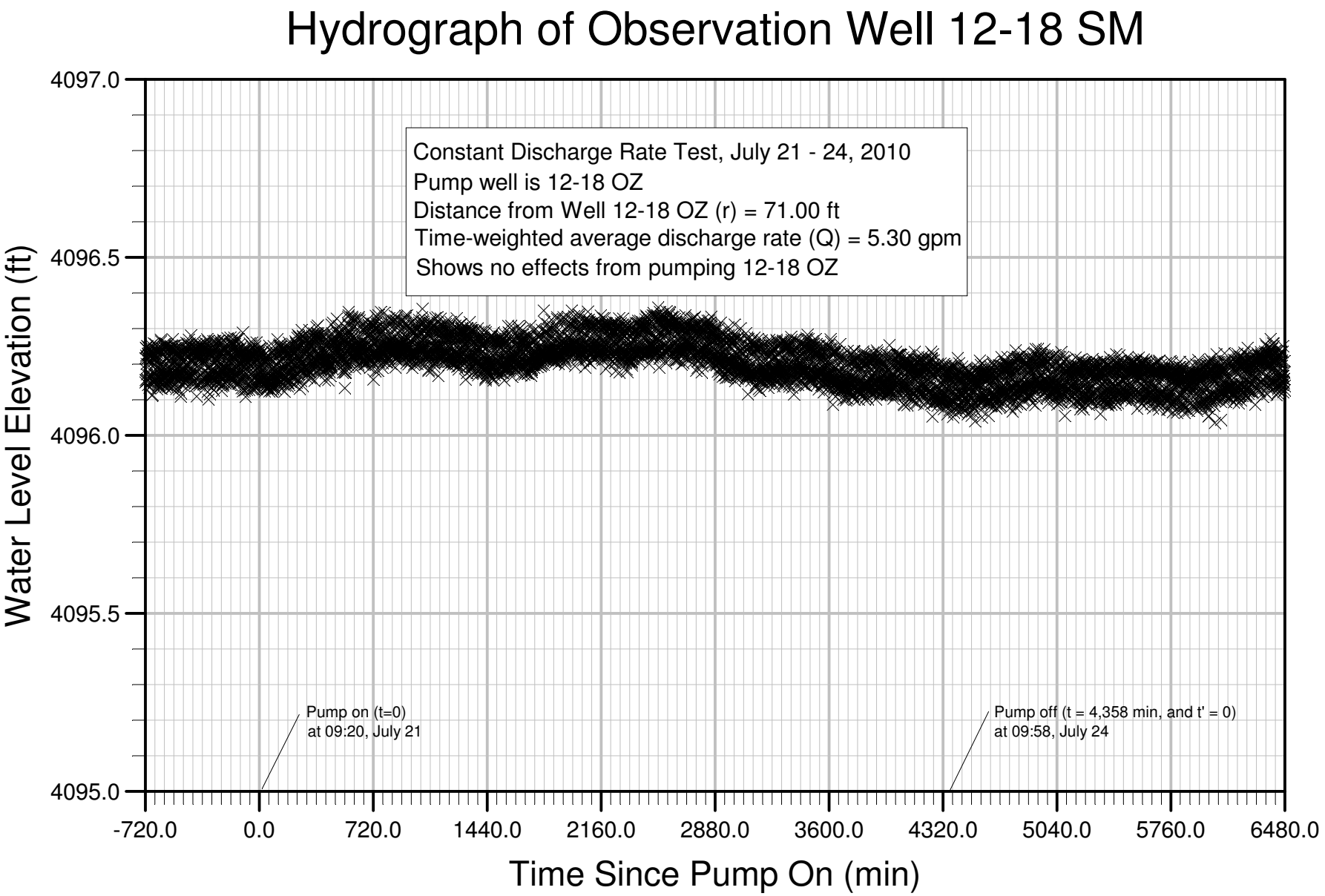
Theis Recovery Method

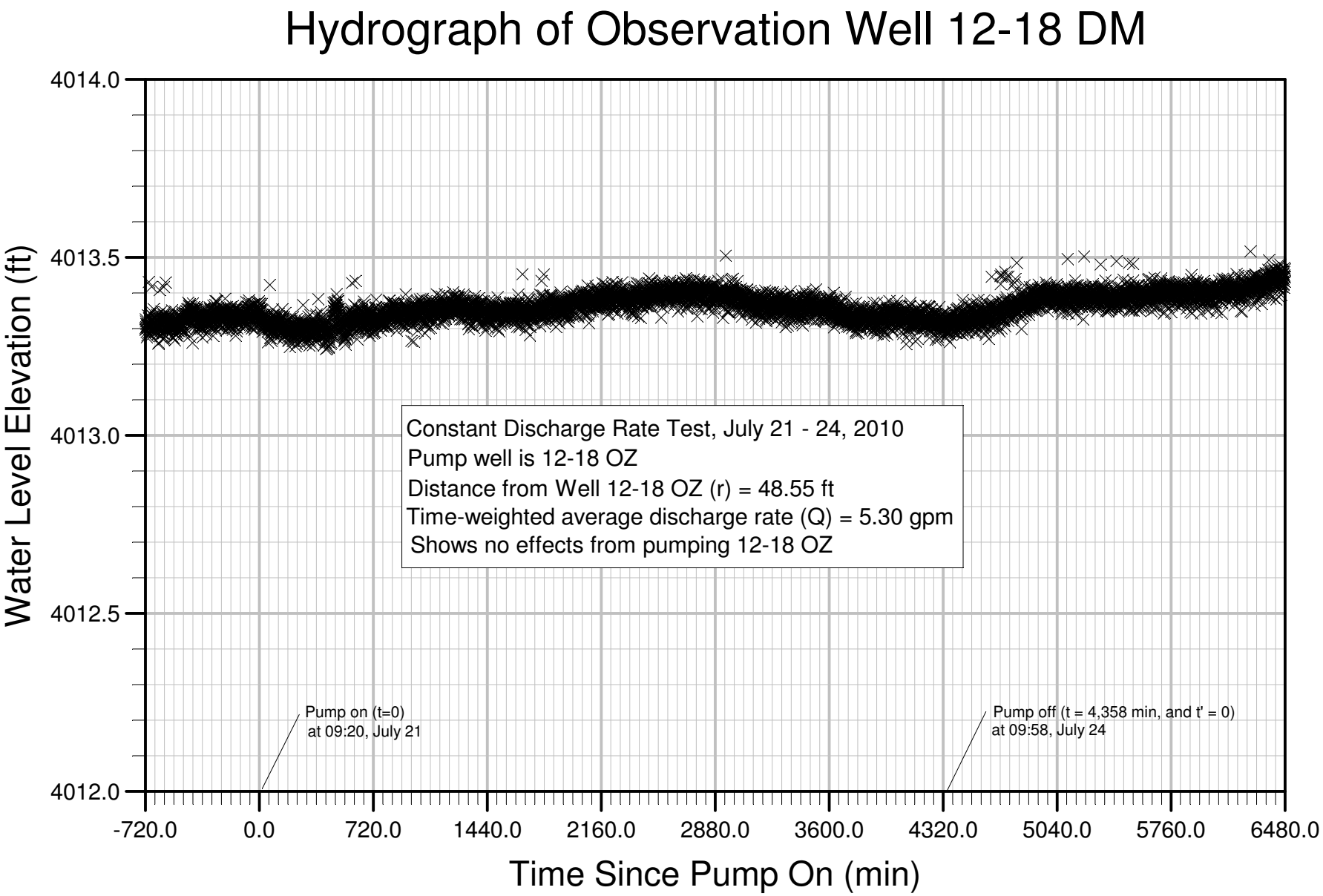


Hantush, 1961 (Confined Partial Penetration Method)




Hydrograph of Observation Well 12-18 SA
Water Level Elevation (ft)
4139.0
4138.5
4138.0
4137.5
4137.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
4320.0
5040.0
5760.0
6480.0
Time Since Pump On (min)
Constant Discharge Rate Test, July 21 - 24, 2010
Pump well is 12-18 OZ
Distance from Well 12-18 OZ (r) = 47.80 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
Shows no effects from pumping 12-18 OZ
Pump on (t=0)
at 09:20, July 21
Pump off (t = 4,358 min, and t' = 0)
at 09:58, July 24


Hydrograph of Observation Well 12-18 SM
Constant Discharge Rate Test, July 21 - 24, 2010
Pump well is 12-18 OZ
Distance from Well 12-18 OZ (r) = 71.00 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
Shows no effects from pumping 12-18 OZ
Pump on (t=0)
at 09:20, July 21
Pump off (t = 4,358 min, and t' = 0)
at 09:58, July 24
Water Level Elevation (ft)
4097.0
4096.5
4096.0
4095.5
4095.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
4320.0
5040.0
5760.0
6480.0
Time Since Pump On (min)


Hydrograph of Observation Well 12-18 DM
Water Level Elevation (ft)
4014.0
4013.5
4013.0
4012.5
4012.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
4320.0
5040.0
5760.0
6480.0
Time Since Pump On (min)
Constant Discharge Rate Test, July 21 - 24, 2010
Pump well is 12-18 OZ
Distance from Well 12-18 OZ (r) = 48.55 ft
Time-weighted average discharge rate (Q) = 5.30 gpm
Shows no effects from pumping 12-18 OZ
Pump on (t=0)
at 09:20, July 21
Pump off (t = 4,358 min, and t' = 0)
at 09:58, July 24

Appendix 7
12-18 Well Cluster
(OW1B57-1 Pumping Well)
July 27, 2010 Aquifer Test
Field Data Form and
Plots of Time-Drawdown and Analyses

WWC ENGINEERING

AQUIFER TEST FIELD DATA

Project/Client ROSS/STRATA ENERGY

Pumped Well No. OW1B57-1 Observation Well No's.

12-18 SA	12-18 OZ
12-18 SM	OW1B58-1
12-18 DM	OW1B60-1

Type of Pump Test: ☒ Constant Discharge ☐ Step-Drawdown

Pumped Well Casing ID 5.0 inches

Distance Between Pumped and Observation Wells * feet

* 12-18 SA = 114.00', 12-18 SM = 107.10', 12-18 DM = 60.30', 12-18 OZ = 71.00',

OW1B58-1 = 102.20', OW1B60-1 = 141.20'

Water Level Measurements by: ☐ electric tape and ☒ pressure transducer

Discharge Measurements by: ☒ bucket/stopwatch ☐ flow meter ☐ flume/weir

Screen/Perforation Interval(s) (below land surface) 529' – 536'

Depth of Pump Intake (below land surface) 400 feet

Depth of Static Water Level (above transducer) 220.32 feet

Height of Measurement Point (above land surface) N/A feet

Elevation of Measurement Point N/A feet a.m.s.l.

Pump On Date 07 / 27 / 2010 Time 1205 AM/(PM)

Pump Off Date 07 / 28 / 2010 Time 1209 AM/(PM)

Weather Conditions Dry, calm, clear 70's ° F

Test Performed by Fuller

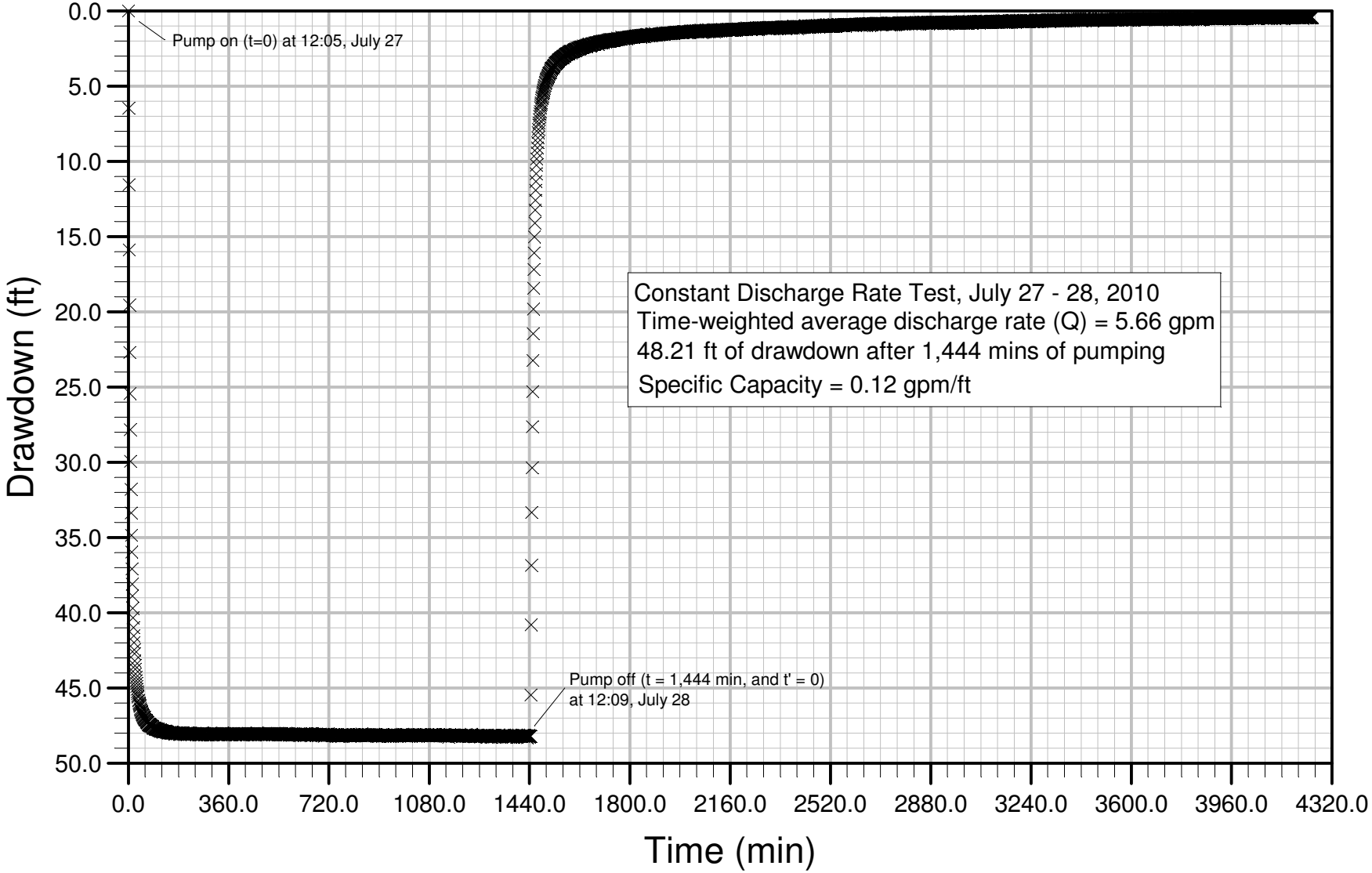
WWC ENGINEERING

AQUIFER TEST FIELD DATA

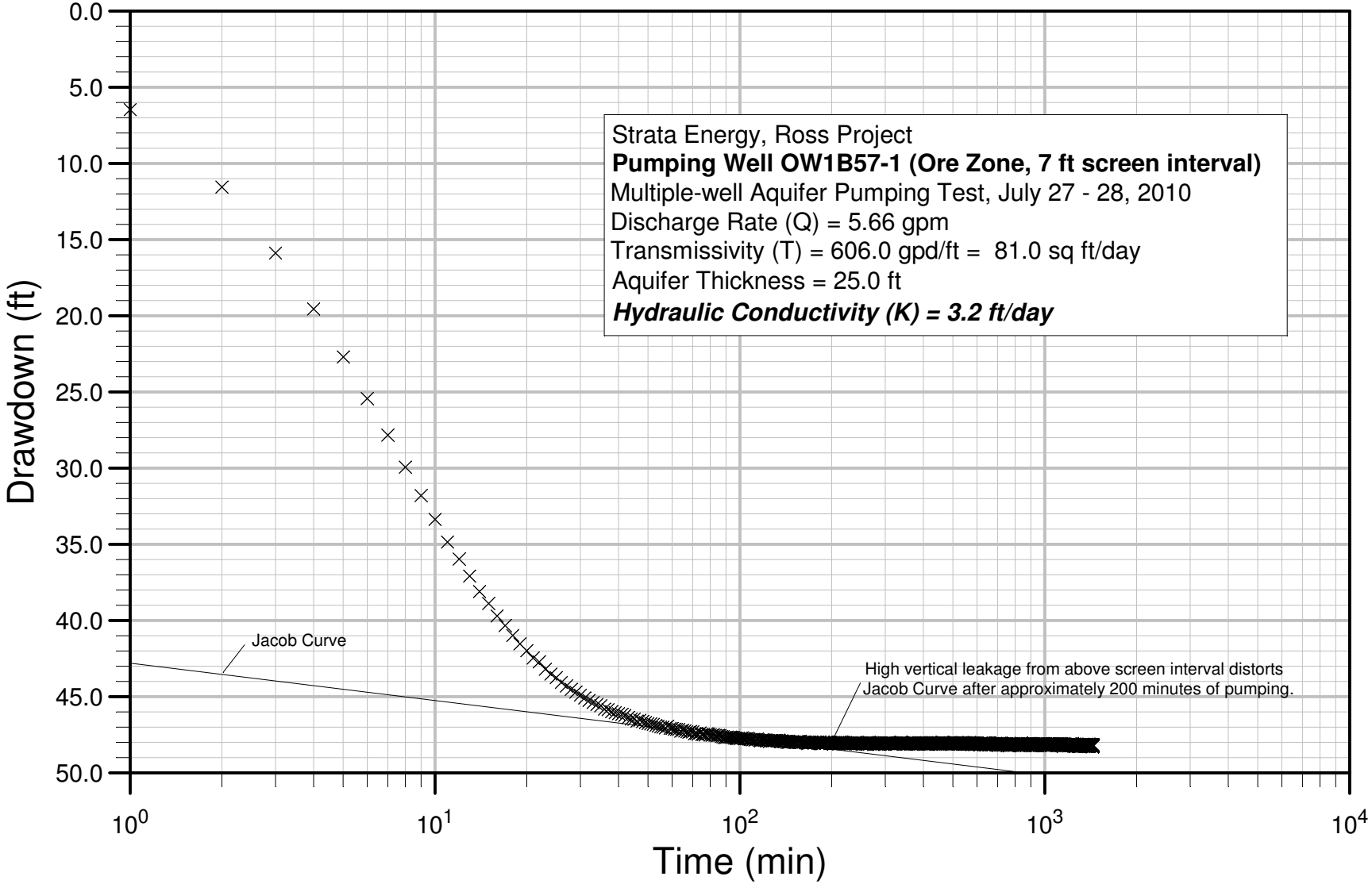
Project/Client ROSS/STRATA ENERGY Well No. OW1B57-1

TIME			WATER LEVEL DATA			
Date	Clock Time	(**t**) Elapsed Time Since Pump ON or OFF (min)	Depth of Water Above Transducer (ft)	(**s**) Drawdown/ Recovery (ft)	(**Q**) Discharge (gpm)	COMMENTS
7-27-10	1205	ON, 0	220.32	0		*Depth of water over transducer
	1206	1	213.86	6.46	5.7	5 gal/53 sec., 75 psi
	1208	3	204.44	15.88		
	1210	5	197.63	22.69	5.7	5 gal/53 sec., 73 psi
	1230	25	176.58	43.74	5.8	5 gal/52 sec., 75 psi
	1250	45	173.85	46.47		
	1350	60	173.25	47.07	5.8	5 gal/52 sec., 75 psi
	1500	175	172.27	48.05		
	1700	295	172.27	48.05	5.7	5 gal/53 sec.,75 psi
	1800	355	172.28	48.04	5.7	5 gal/53 sec., 75 psi
7-28-10	0900	1255	172.16	48.16	5.7	5 gal/53 sec., 75 psi
	1030	1345	172.11	48.21	5.7	5 gal/53 sec., 75 psi
	1209	OFF, 1444	172.11	48.21	5.7	Water quality sample collected
						Recover data recorded by pressure transducer

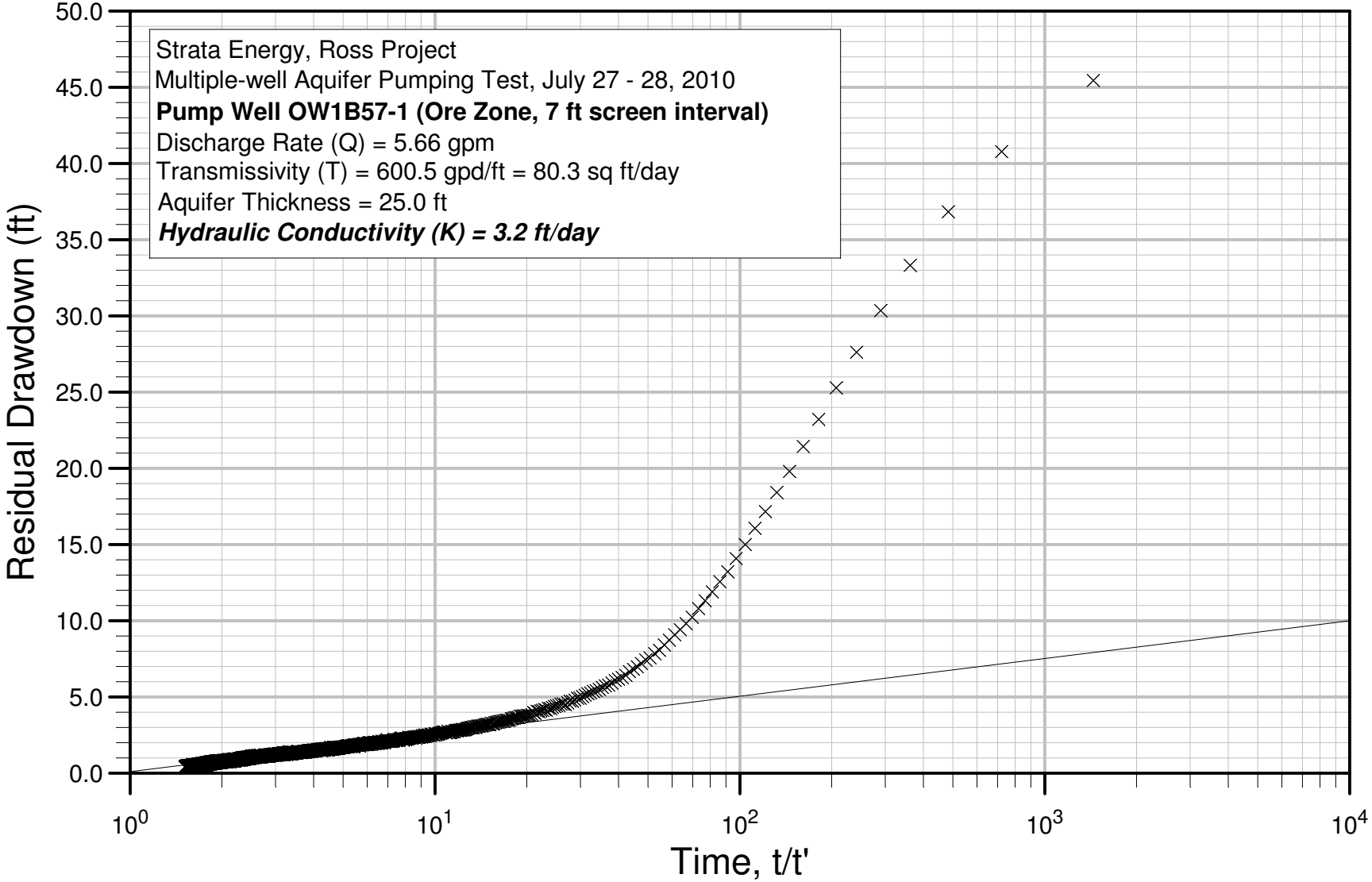
Drawdown and Recovery, Pump Well OW1B57-1

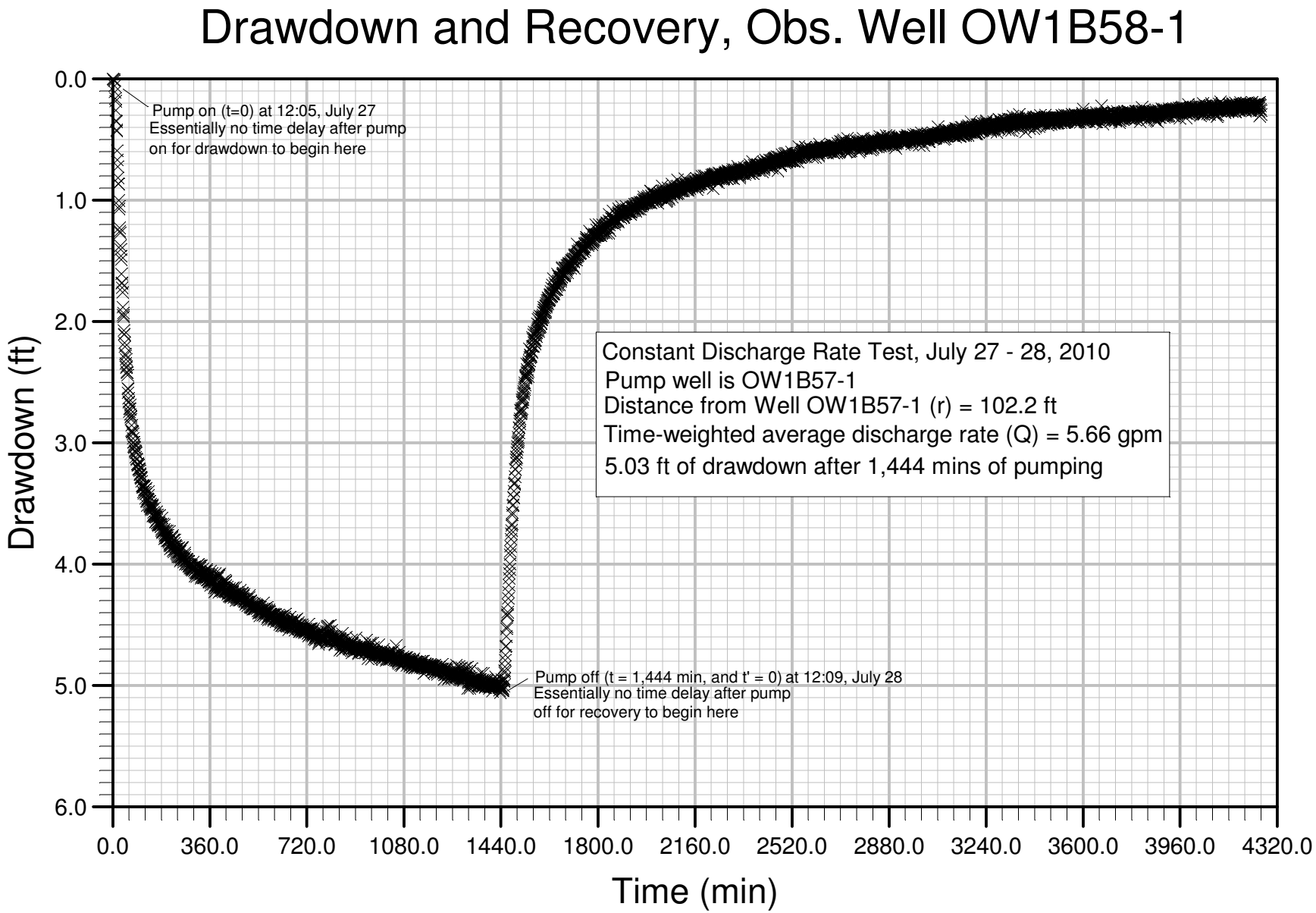


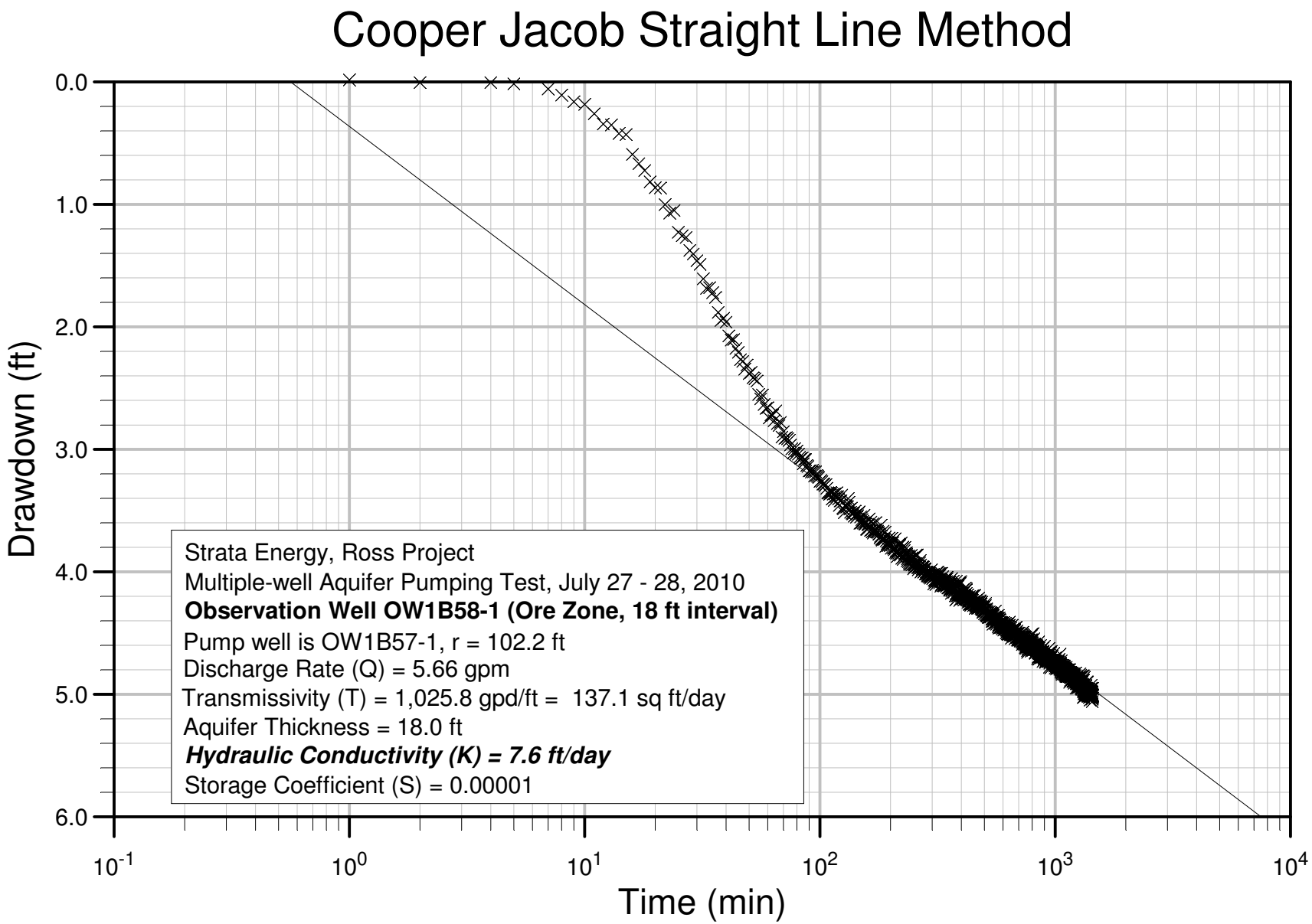
Cooper Jacob Straight Line Method



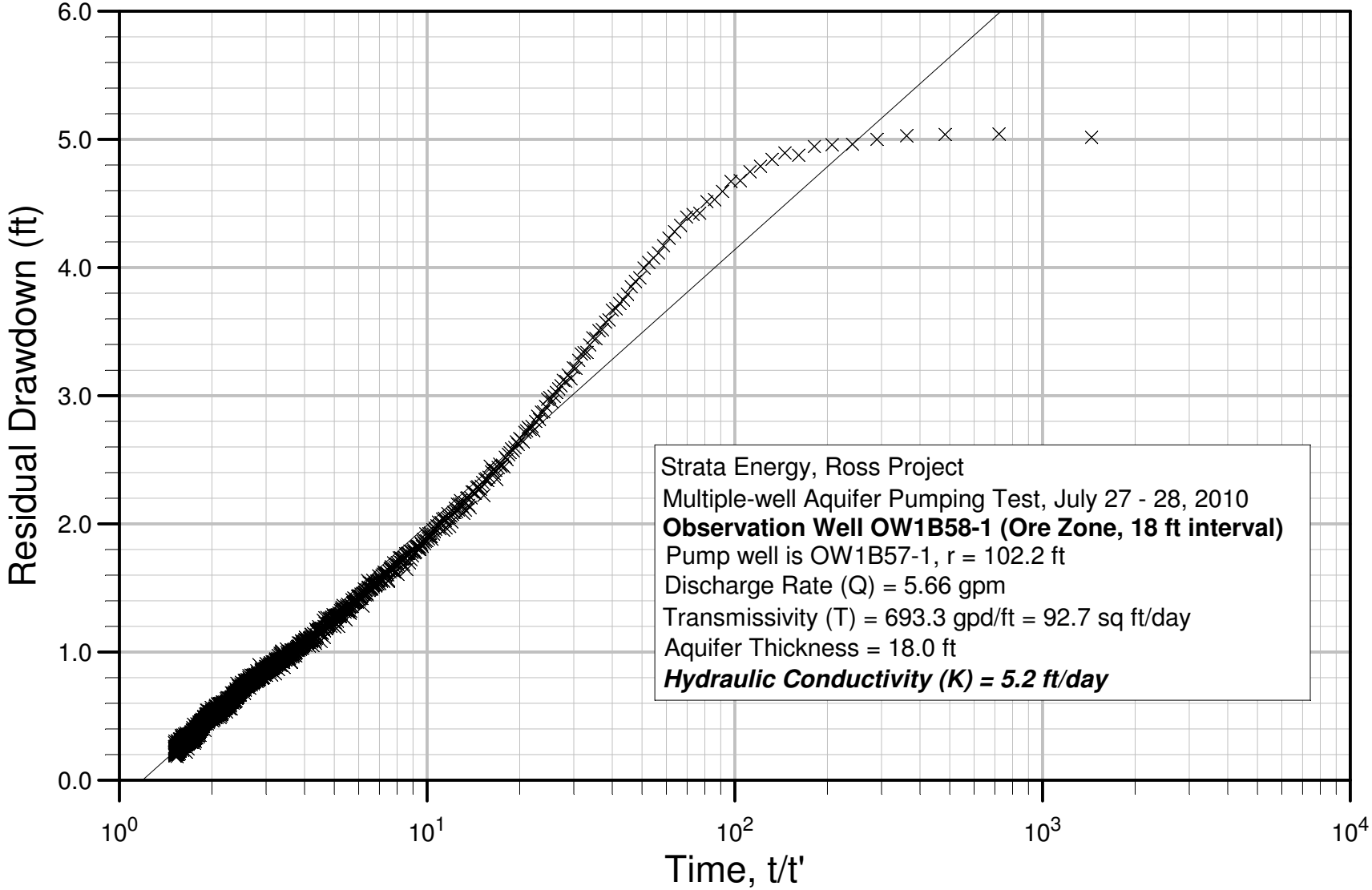
Theis Recovery Method



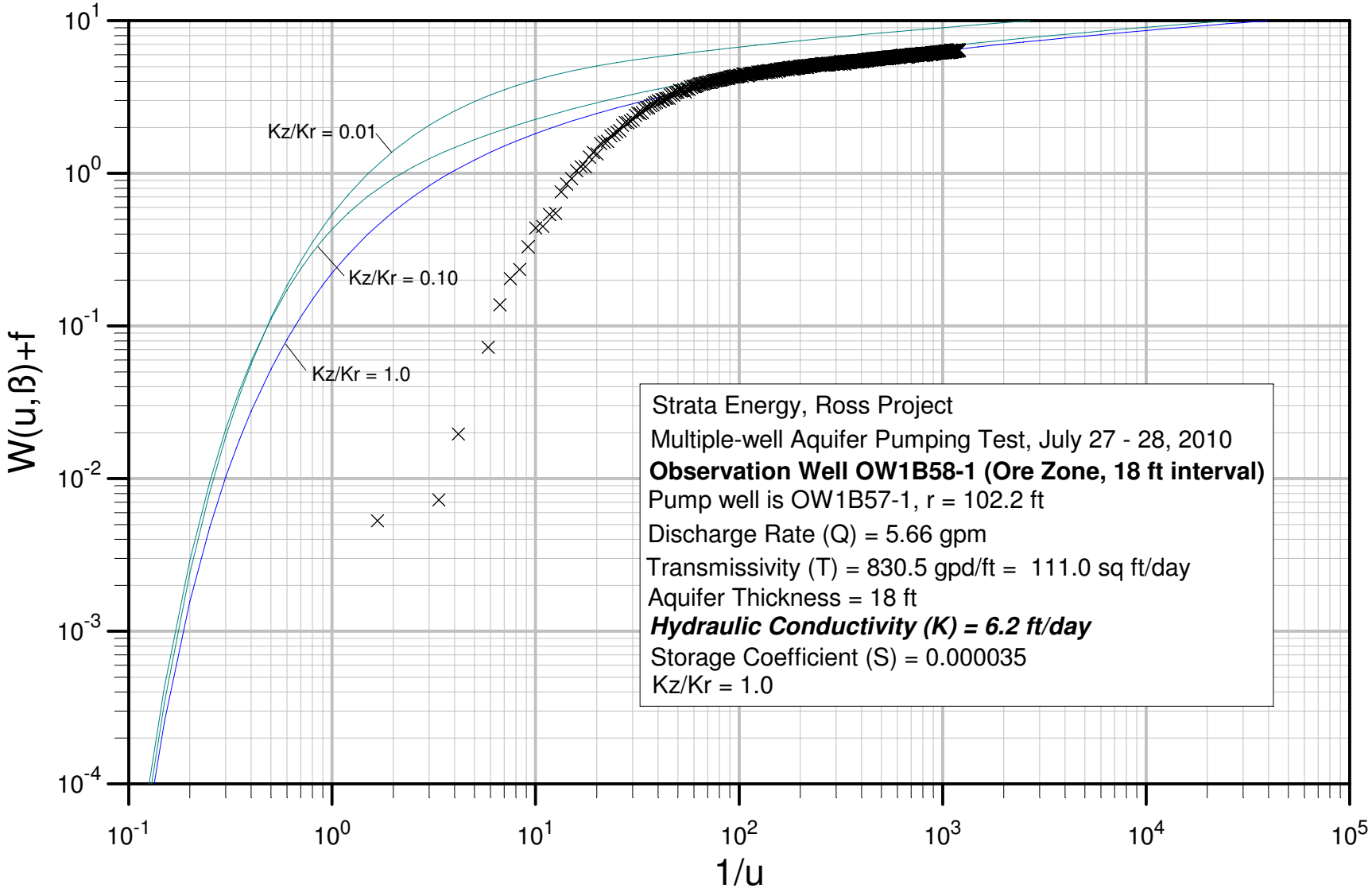

Drawdown and Recovery, Obs. Well OW1B58-1
Drawdown (ft)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
Time (min)
0.0
360.0
720.0
1080.0
1440.0
1800.0
2160.0
2520.0
2880.0
3240.0
3600.0
3960.0
4320.0
Pump on (t=0) at 12:05, July 27
Essentially no time delay after pump
on for drawdown to begin here
Constant Discharge Rate Test, July 27 - 28, 2010
Pump well is OW1B57-1
Distance from Well OW1B57-1 (r) = 102.2 ft
Time-weighted average discharge rate (Q) = 5.66 gpm
5.03 ft of drawdown after 1,444 mins of pumping
Pump off (t = 1,444 min, and t' = 0) at 12:09, July 28
Essentially no time delay after pump
off for recovery to begin here

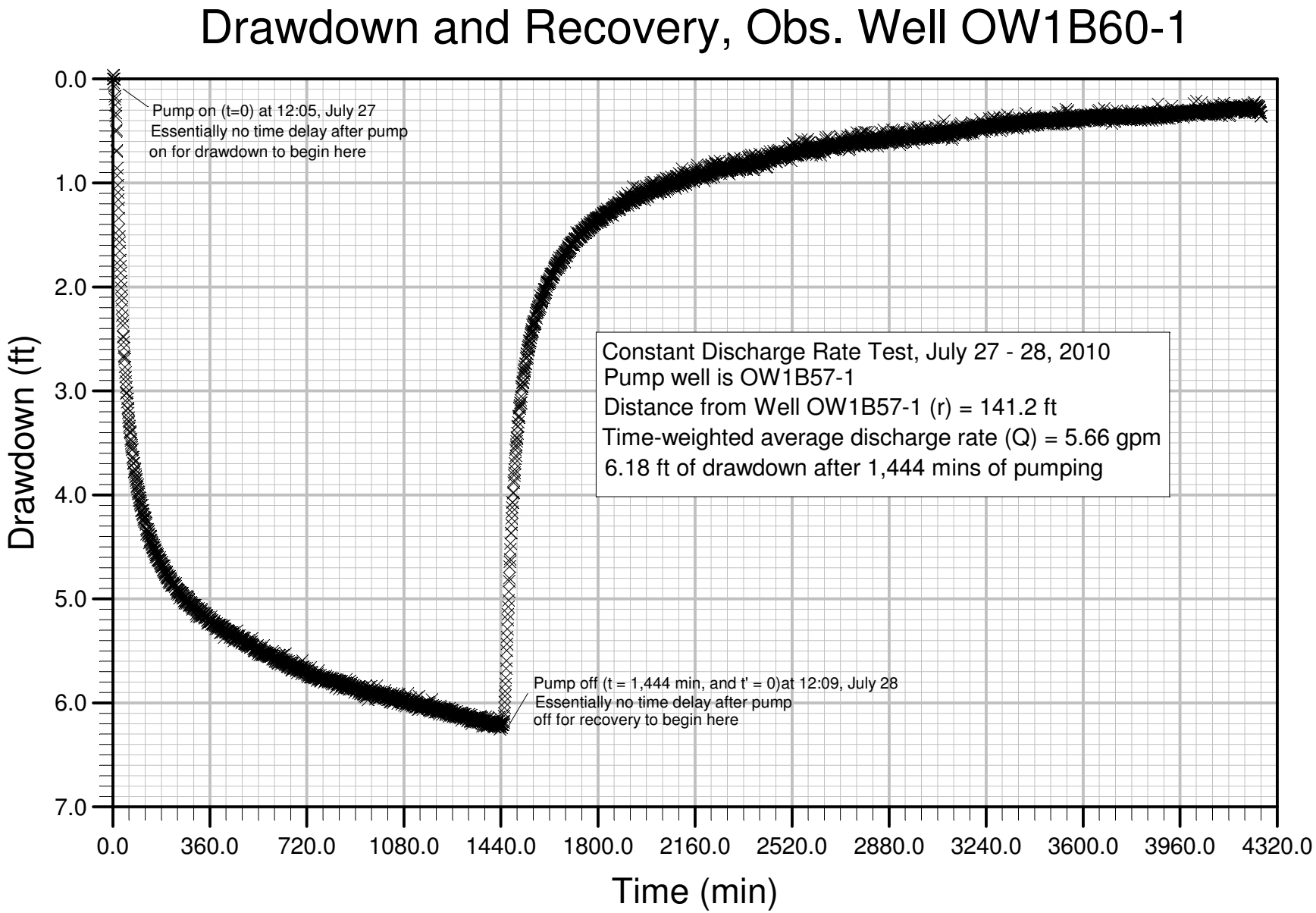

Cooper Jacob Straight Line Method
Drawdown (ft)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
Time (min)
Strata Energy, Ross Project
Multiple-well Aquifer Pumping Test, July 27 - 28, 2010
Observation Well OW1B58-1 (Ore Zone, 18 ft interval)
Pump well is OW1B57-1, r = 102.2 ft
Discharge Rate (Q) = 5.66 gpm
Transmissivity (T) = 1,025.8 gpd/ft = 137.1 sq ft/day
Aquifer Thickness = 18.0 ft
Hydraulic Conductivity (K) = 7.6 ft/day
Storage Coefficient (S) = 0.00001

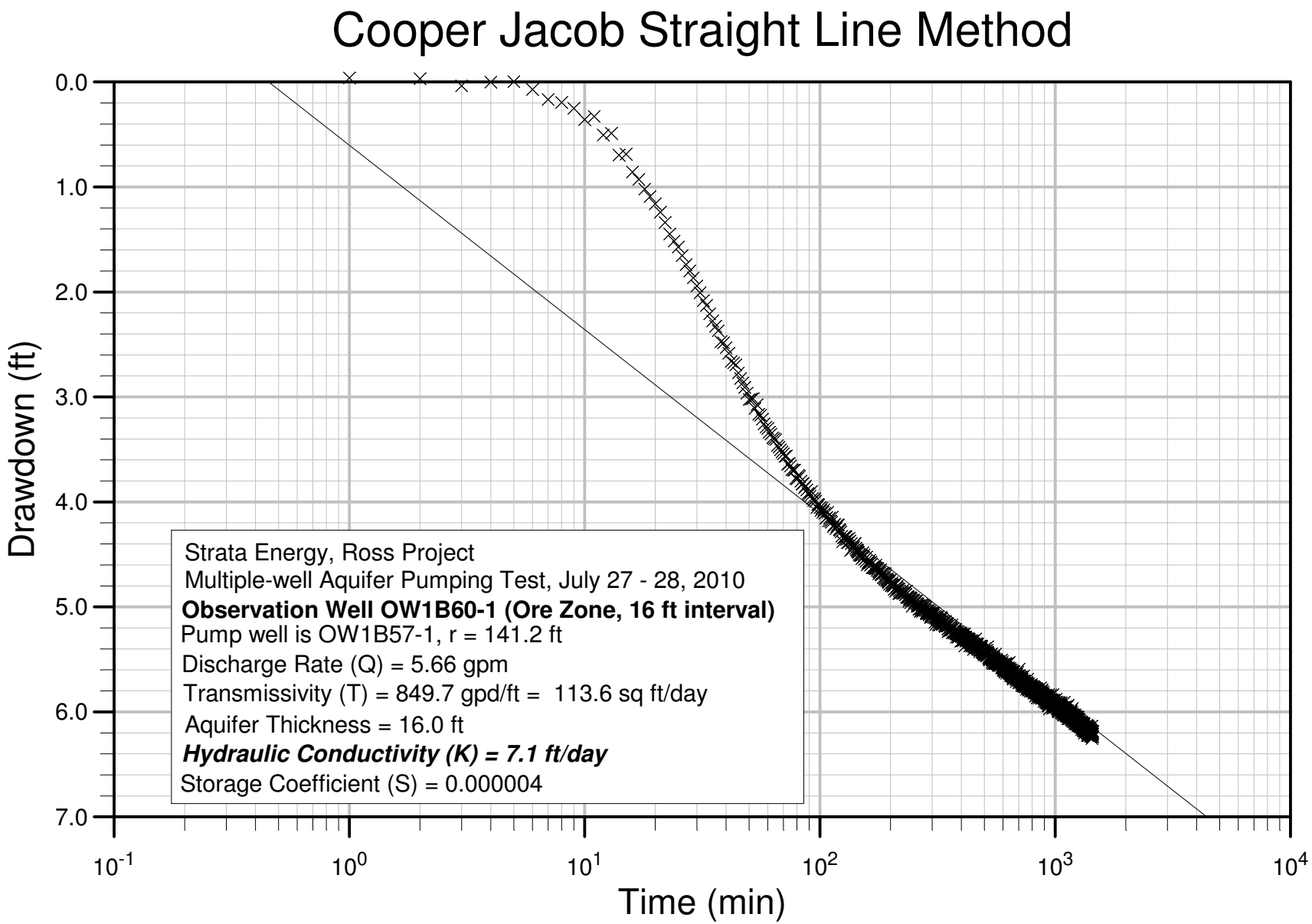
Theis Recovery Method



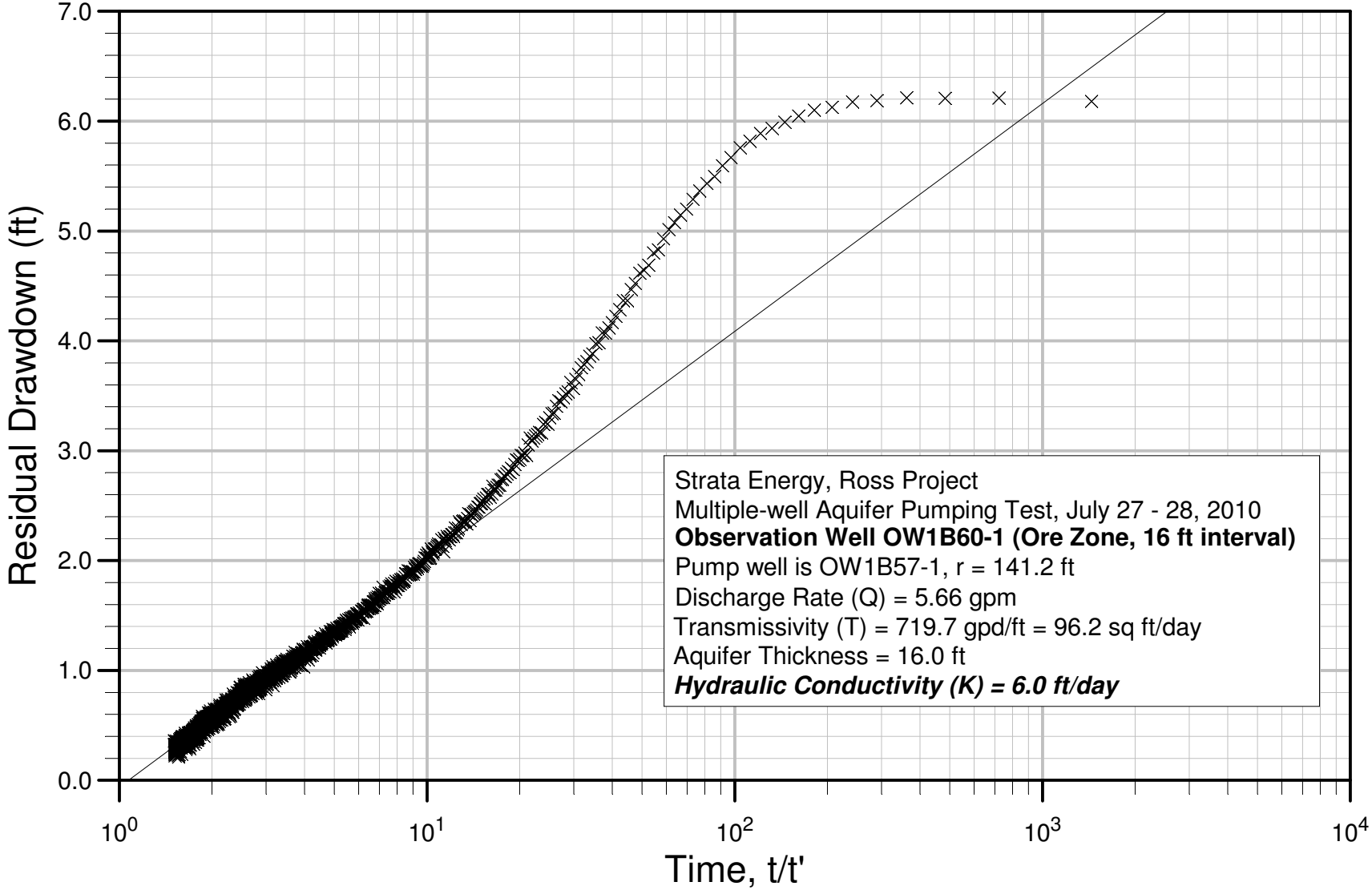
Hantush, 1961 (Confined Partial Penetration Method)



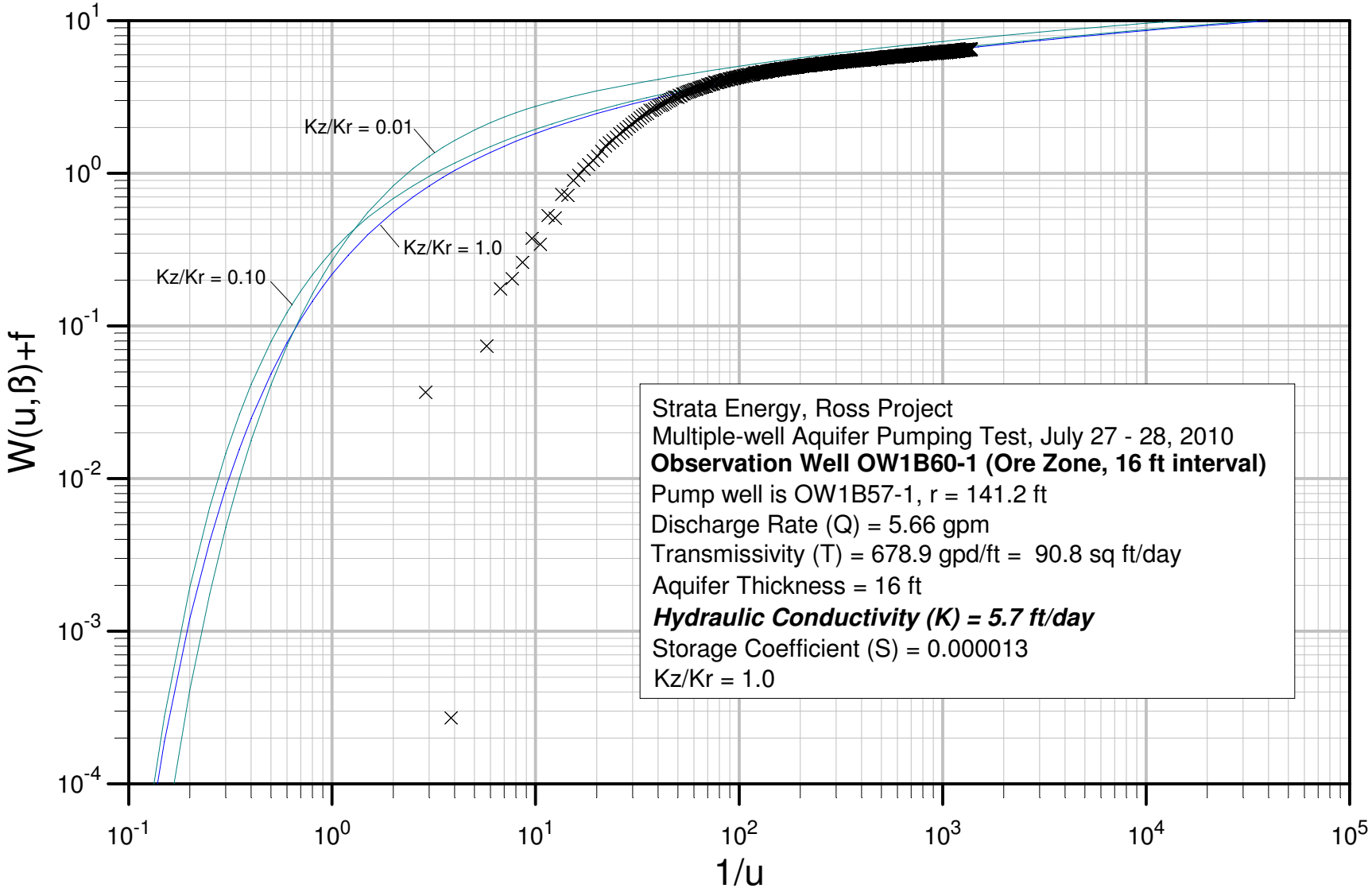

Drawdown and Recovery, Obs. Well OW1B60-1
Drawdown (ft)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Time (min)
0.0
360.0
720.0
1080.0
1440.0
1800.0
2160.0
2520.0
2880.0
3240.0
3600.0
3960.0
4320.0
Pump on (t=0) at 12:05, July 27
Essentially no time delay after pump
on for drawdown to begin here
Constant Discharge Rate Test, July 27 - 28, 2010
Pump well is OW1B57-1
Distance from Well OW1B57-1 (r) = 141.2 ft
Time-weighted average discharge rate (Q) = 5.66 gpm
6.18 ft of drawdown after 1,444 mins of pumping
Pump off (t = 1,444 min, and t' = 0)at 12:09, July 28
Essentially no time delay after pump
off for recovery to begin here

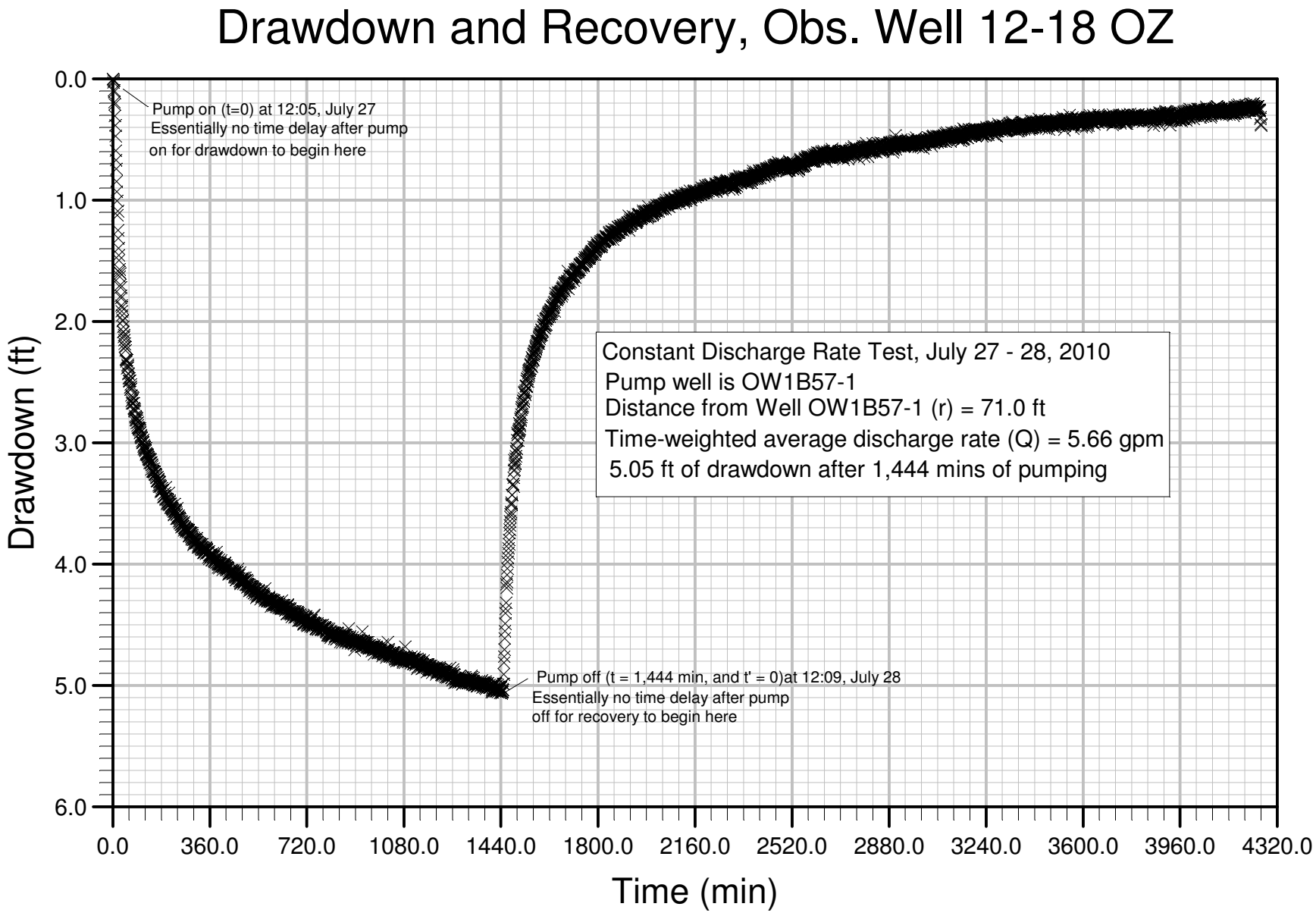

Cooper Jacob Straight Line Method
Drawdown (ft)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
Time (min)
Strata Energy, Ross Project
Multiple-well Aquifer Pumping Test, July 27 - 28, 2010
Observation Well OW1B60-1 (Ore Zone, 16 ft interval)
Pump well is OW1B57-1, r = 141.2 ft
Discharge Rate (Q) = 5.66 gpm
Transmissivity (T) = 849.7 gpd/ft = 113.6 sq ft/day
Aquifer Thickness = 16.0 ft
Hydraulic Conductivity (K) = 7.1 ft/day
Storage Coefficient (S) = 0.000004

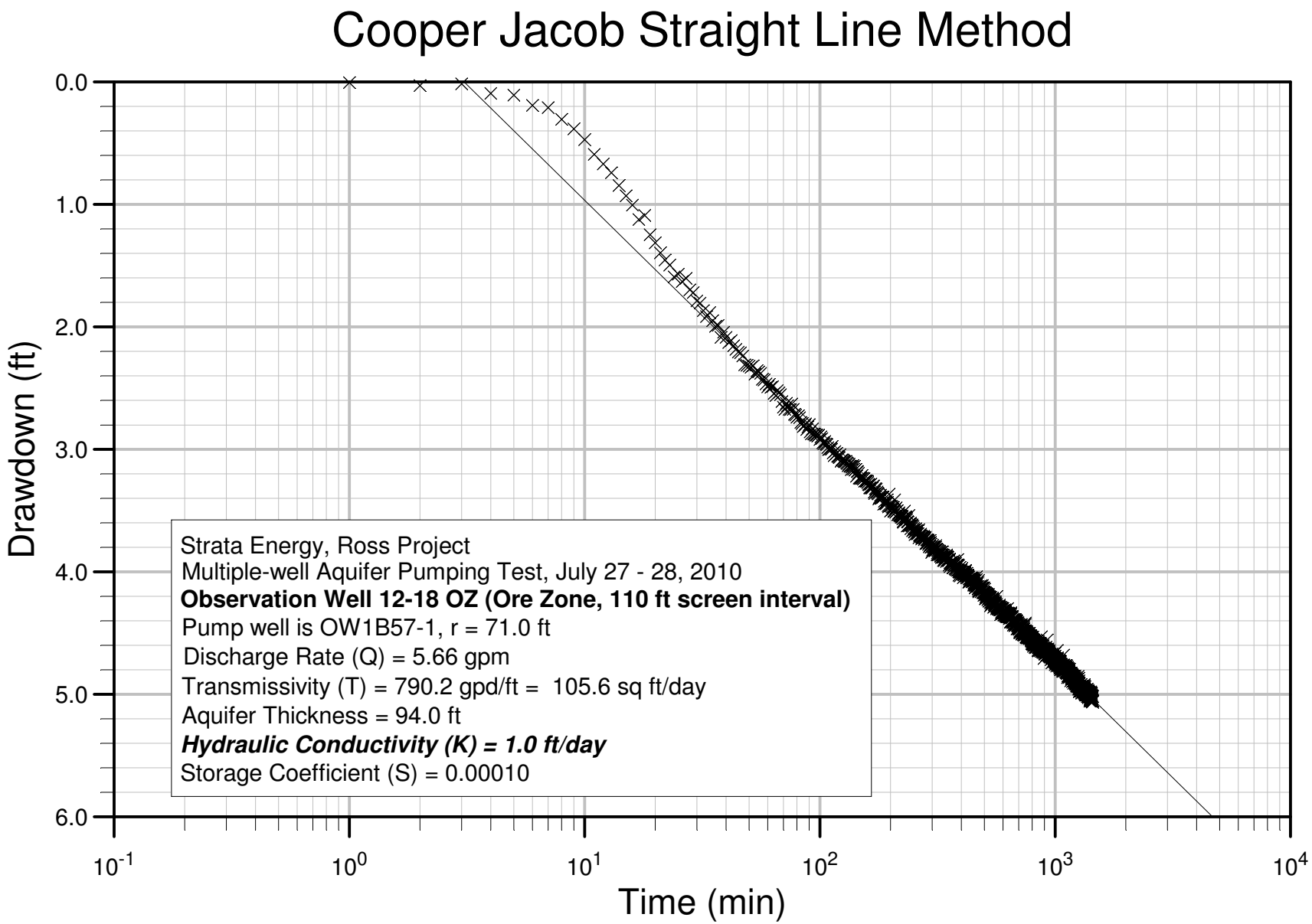
Theis Recovery Method



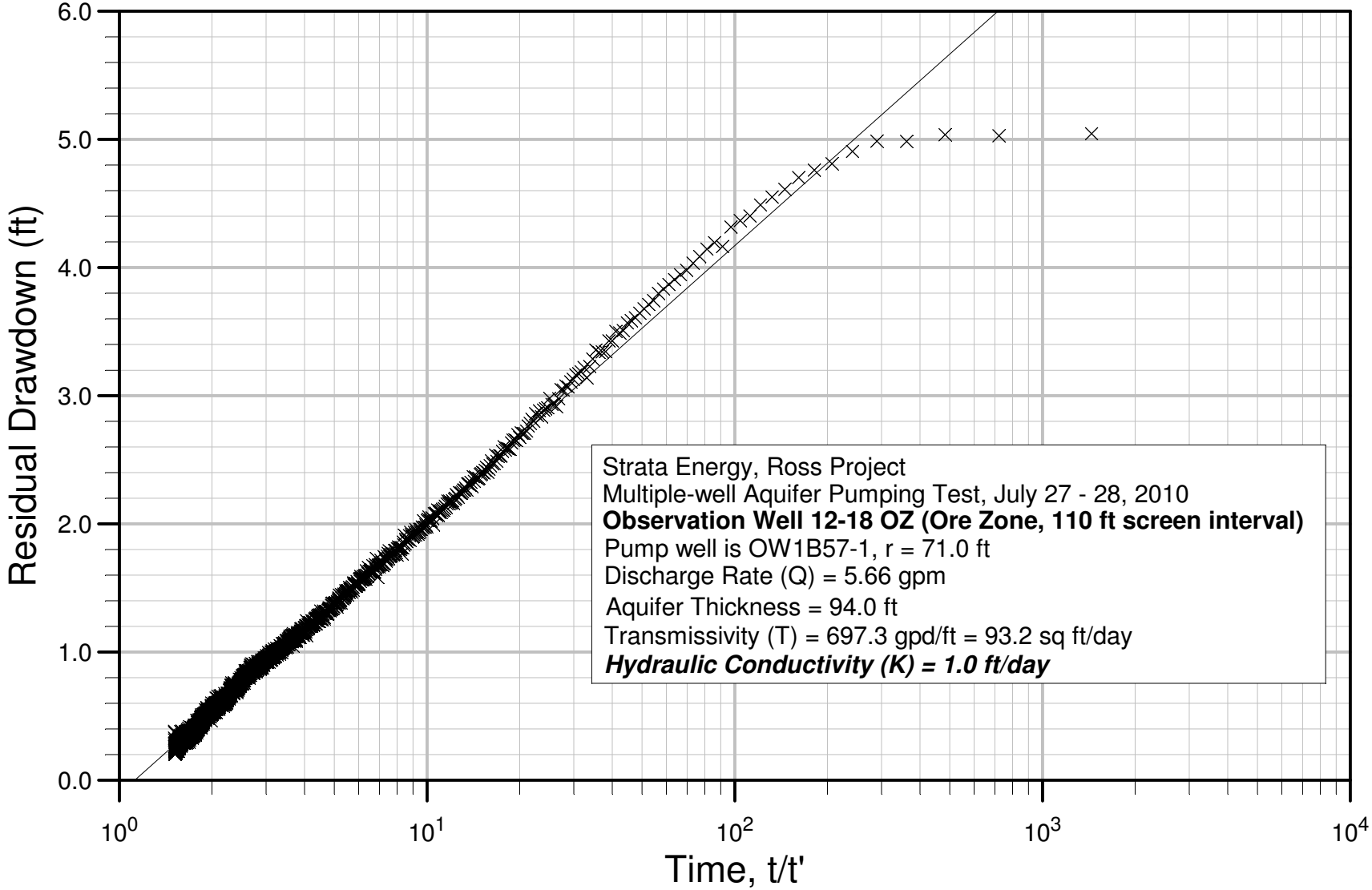
Hantush, 1961 (Confined Partial Penetration Method)



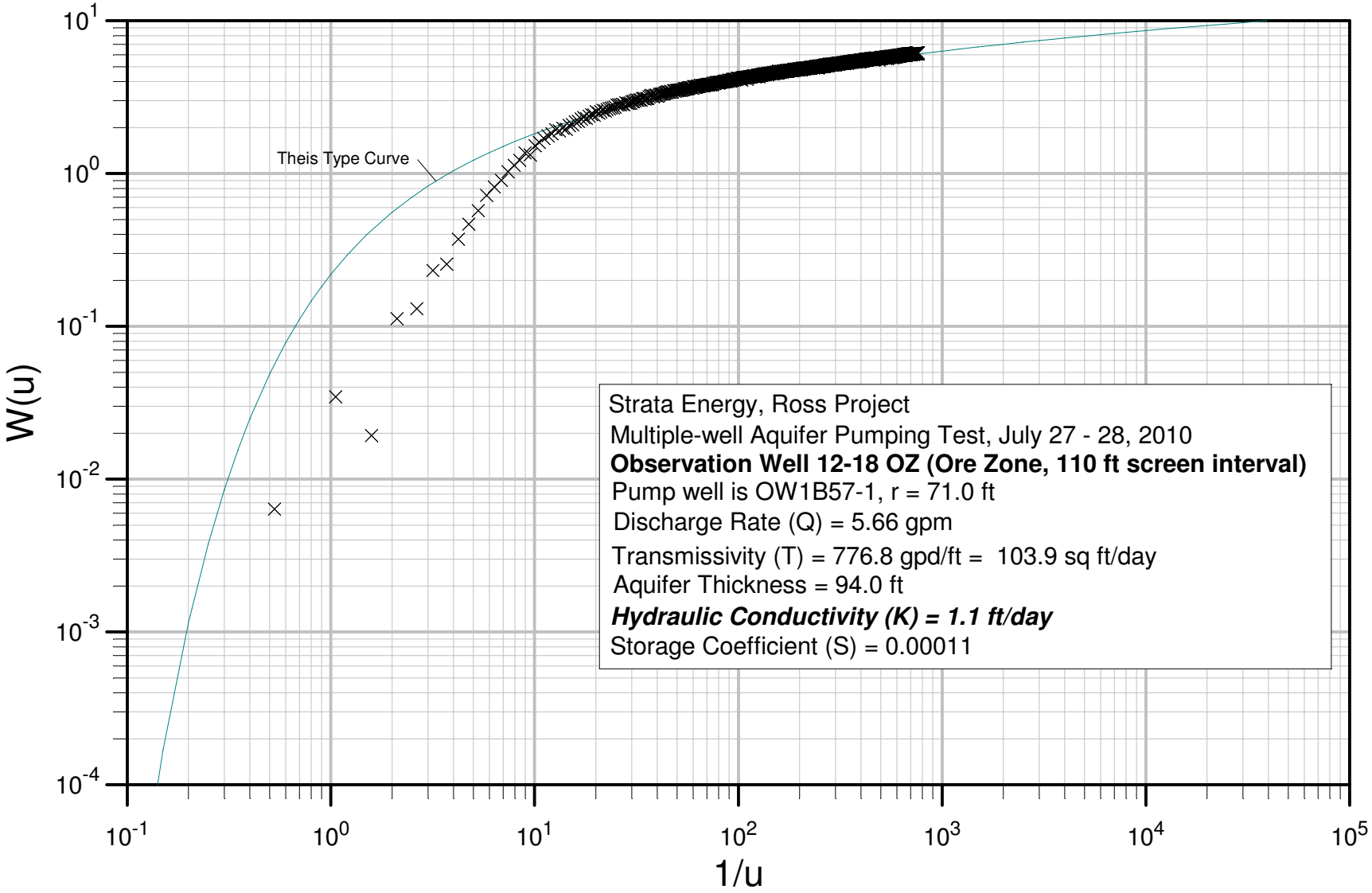

Drawdown and Recovery, Obs. Well 12-18 OZ
Drawdown (ft)
Time (min)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
0.0
360.0
720.0
1080.0
1440.0
1800.0
2160.0
2520.0
2880.0
3240.0
3600.0
3960.0
4320.0
Pump on (t=0) at 12:05, July 27
Essentially no time delay after pump
on for drawdown to begin here
Constant Discharge Rate Test, July 27 - 28, 2010
Pump well is OW1B57-1
Distance from Well OW1B57-1 (r) = 71.0 ft
Time-weighted average discharge rate (Q) = 5.66 gpm
5.05 ft of drawdown after 1,444 mins of pumping
Pump off (t = 1,444 min, and t' = 0)at 12:09, July 28
Essentially no time delay after pump
off for recovery to begin here

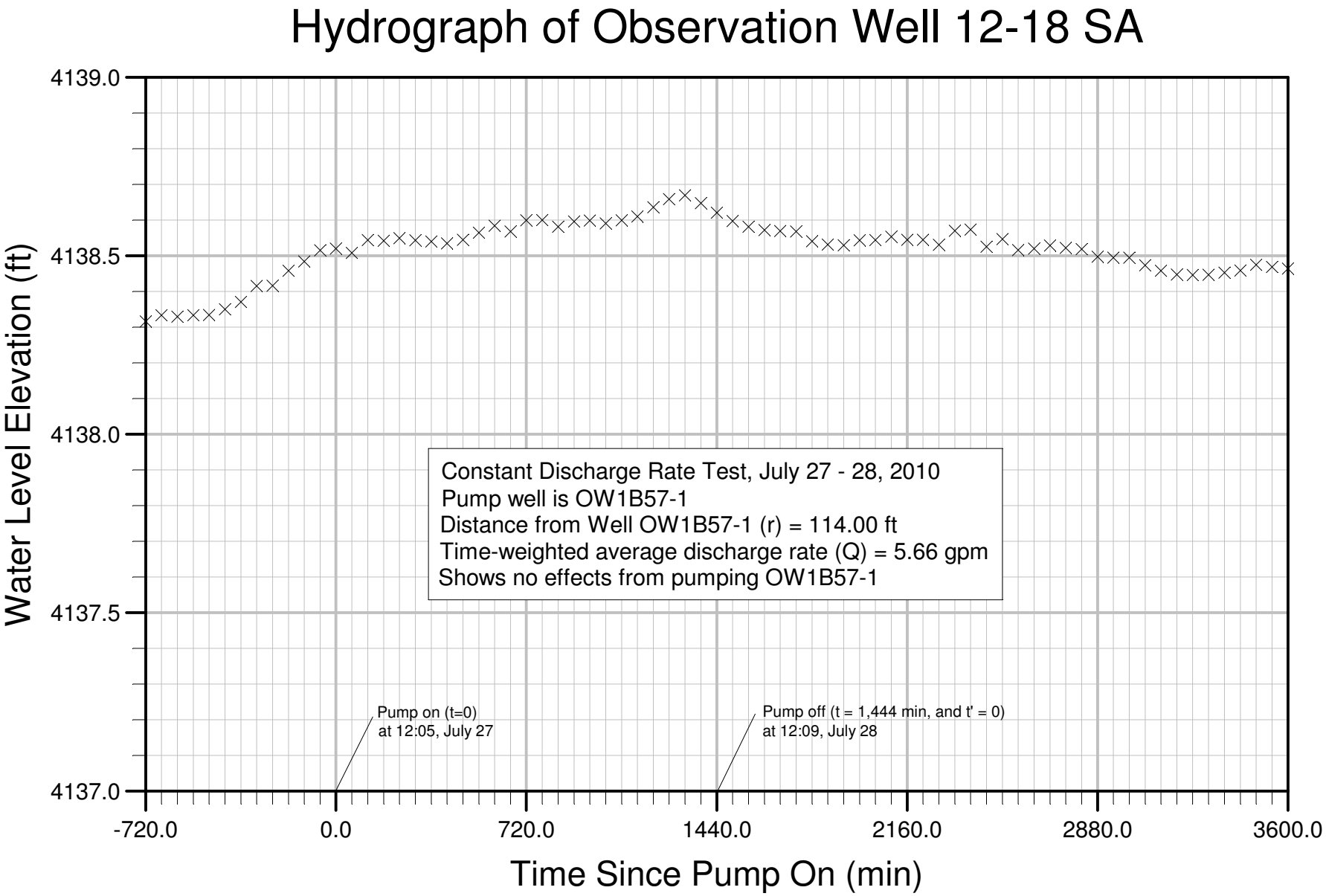

Cooper Jacob Straight Line Method
Drawdown (ft)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
Time (min)
Strata Energy, Ross Project
Multiple-well Aquifer Pumping Test, July 27 - 28, 2010
Observation Well 12-18 OZ (Ore Zone, 110 ft screen interval)
Pump well is OW1B57-1, r = 71.0 ft
Discharge Rate (Q) = 5.66 gpm
Transmissivity (T) = 790.2 gpd/ft = 105.6 sq ft/day
Aquifer Thickness = 94.0 ft
Hydraulic Conductivity (K) = 1.0 ft/day
Storage Coefficient (S) = 0.00010

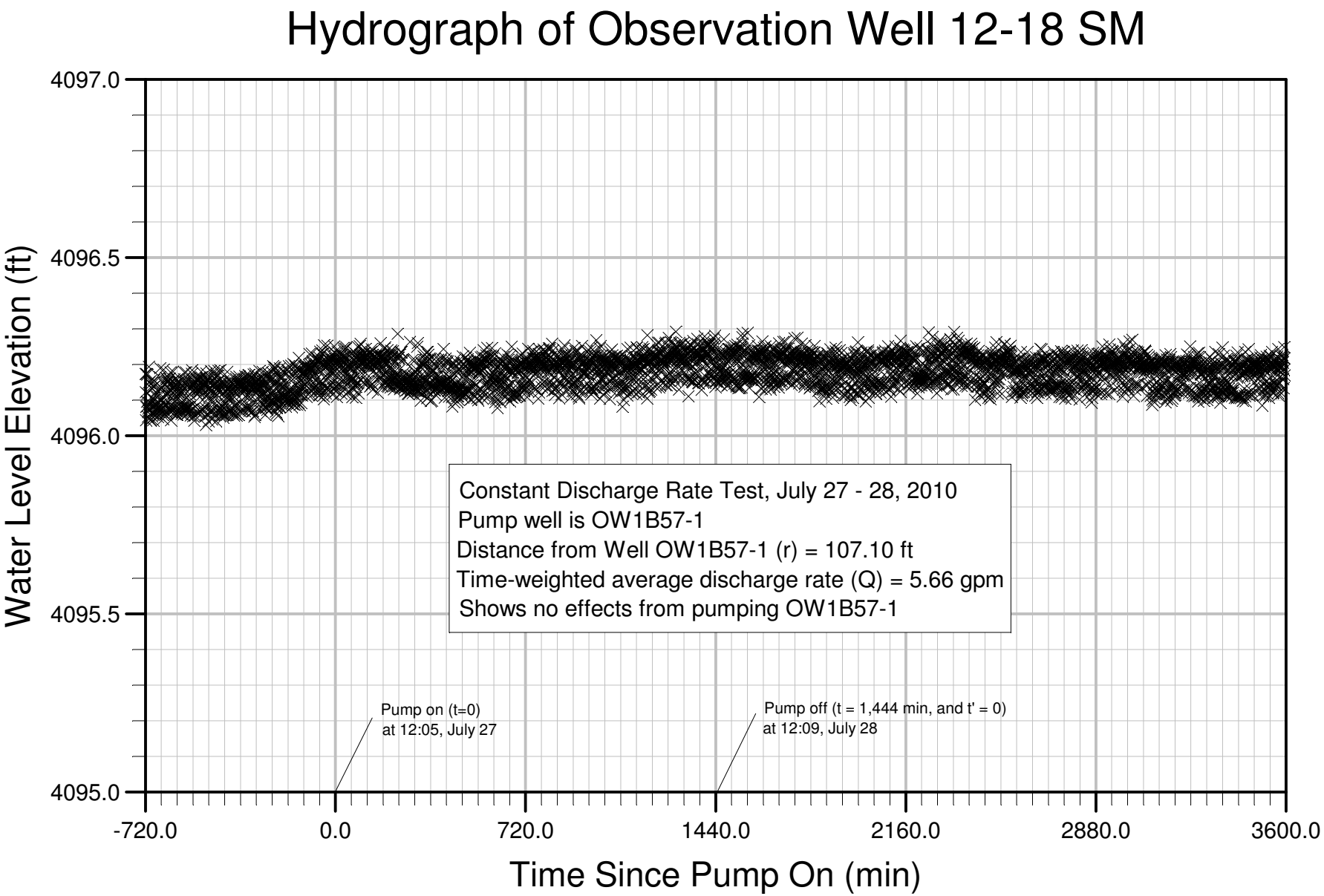
Theis Recovery Method

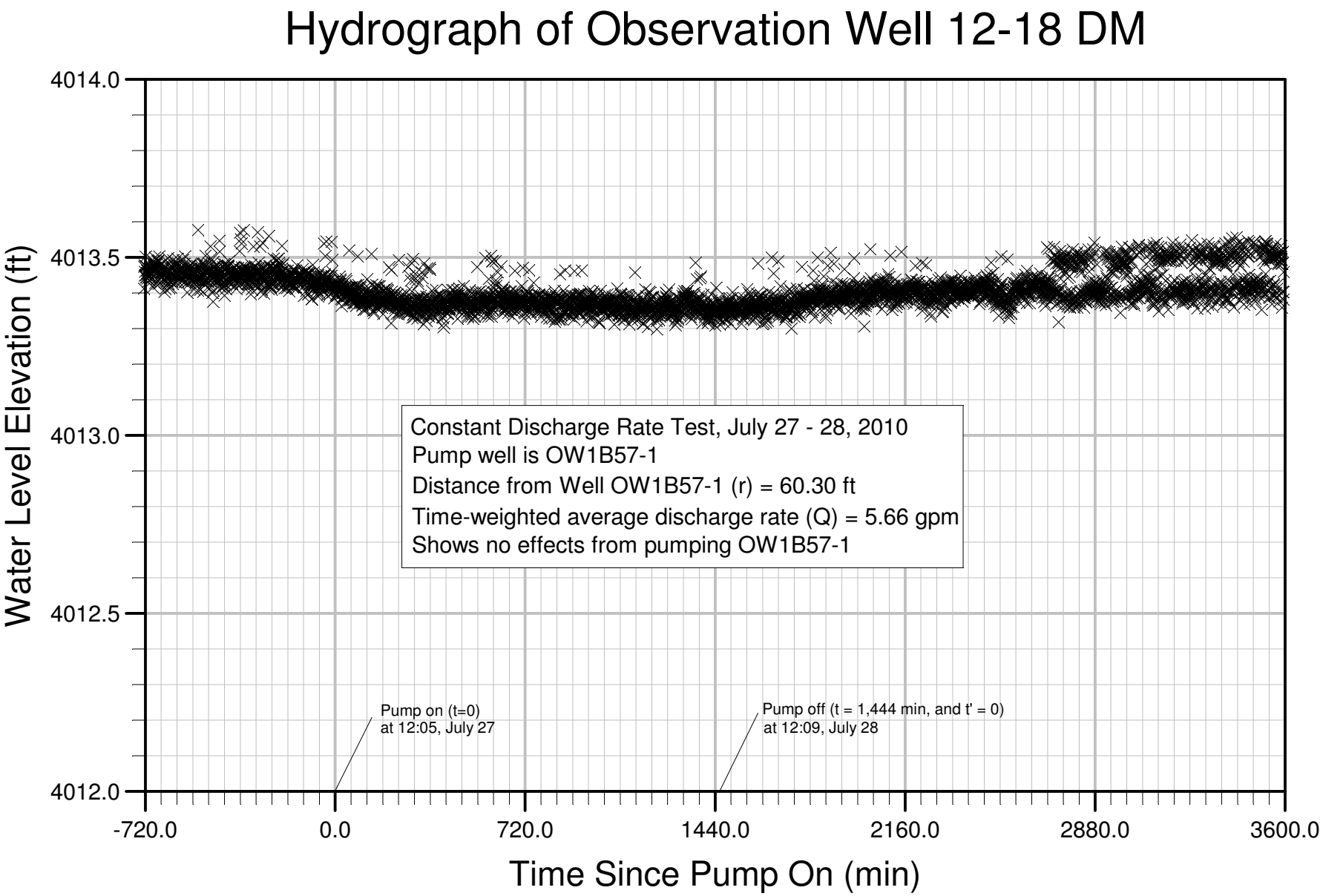


Theis Method (Confined)




Hydrograph of Observation Well 12-18 SA
Water Level Elevation (ft)
4139.0
4138.5
4138.0
4137.5
4137.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
Time Since Pump On (min)
Constant Discharge Rate Test, July 27 - 28, 2010
Pump well is OW1B57-1
Distance from Well OW1B57-1 (r) = 114.00 ft
Time-weighted average discharge rate (Q) = 5.66 gpm
Shows no effects from pumping OW1B57-1
Pump on (t=0)
at 12:05, July 27
Pump off (t = 1,444 min, and t' = 0)
at 12:09, July 28


Hydrograph of Observation Well 12-18 SM
Water Level Elevation (ft)
4097.0
4096.5
4096.0
4095.5
4095.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
Time Since Pump On (min)
Constant Discharge Rate Test, July 27 - 28, 2010
Pump well is OW1B57-1
Distance from Well OW1B57-1 (r) = 107.10 ft
Time-weighted average discharge rate (Q) = 5.66 gpm
Shows no effects from pumping OW1B57-1
Pump on (t=0)
at 12:05, July 27
Pump off (t = 1,444 min, and t' = 0)
at 12:09, July 28


Hydrograph of Observation Well 12-18 DM
Water Level Elevation (ft)
4014.0
4013.5
4013.0
4012.5
4012.0
-720.0
0.0
720.0
1440.0
2160.0
2880.0
3600.0
Time Since Pump On (min)
Constant Discharge Rate Test, July 27 - 28, 2010
Pump well is OW1B57-1
Distance from Well OW1B57-1 (r) = 60.30 ft
Time-weighted average discharge rate (Q) = 5.66 gpm
Shows no effects from pumping OW1B57-1
Pump on (t=0)
at 12:05, July 27
Pump off (t = 1,444 min, and t' = 0)
at 12:09, July 28

Appendix 8
Abandonment Records for Boreholes Plugged in the Vicinity of the 12-18 OZ Well Cluster

6-11-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0273

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 0273 Date: 6-11-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 660

SEALING:

Reason: Exploration hole ✓, Final well abandonment _____, Integrity failure _____, DNC _____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe _____, Hose _____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth _____ ft., Plug Depth _____ ft., Type marker _____

General area: Topsoil replacement date _____, Reseed date _____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top off w/ Dry Cement up to within
2Ft of surface then Bent Chips + Rebar marker

Supervisor: _____

6-11-08

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0270

Parameters		
Hole diameter	5.25	inches
Hole Depth	640	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	719.68	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5834.9	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	62.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	233.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	484.2	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 0270 Date: 6-11-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 640

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 62, Gallons of slurry 719,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 640 ft. to _____ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip, Trip out
Allow to settle 48 hrs, Top OFF w/ Dry Cement up to within 2Ft
of Surface then Bent Chips + Rebar marker

Supervisor: _____

6-10-18

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR476

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 476 Date: 6-10-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs. Top off w/Dry Cement up to within
2Ft of Surface then Bent Chips + Rebar marker

Supervisor: _____

6-10-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR423

Parameters		
Hole diameter	5.25	inches
Hole Depth	651	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	732.0495	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5935.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	237.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	492.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 423 Date: 6-10-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 651

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 63, Gallons of slurry 732,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 651 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to ~~Sfc~~ Btm, Cement thru pipe, Trip out
Allow to Settle 48 hrs. Top off w/ Dry Cement up to within
2 Ft of Surface then Bent Chips & Rebar marker

Supervisor: _____

6-10-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0280

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RmR 0280 Date: 6-10-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 660

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Pipe, Tripout
Allow to settle 48 hrs. Top off w/Dry Cement up to within
2 Ft of surface then Bent Chips + Rebar mrkr

Supervisor: _____

Cemented By Hose Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0282

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

Cemented By Hose Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0320

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

Cemented By Hose Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0368

Parameters		
Hole diameter	5.25	inches
Hole Depth	680	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	764.66	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6199.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	66.0	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	248.0	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	5.0	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	514.4	gallons

Cemented By Hose Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR 369

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

Cemented By Hose Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0370

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

Cemented By Hose Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0385

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

Cemented By Hole Reel

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0386

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

G-10-18

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0045

Parameters		
Hole diameter	5.25	inches
Hole Depth	620	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	697.19	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5652.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	60.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	226.1	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.5	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	469.0	gallons

CAN'T FINE YET DUE TO PIPELINE

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 0045 Date: 6-10-10

Project: ROSS ISR Contractor: Pronghorn Drilling

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 620

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 60, Gallons of slurry 697,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 620 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout Allow to settle 48hrs, Top off w/Dry Cement upto within 2Ft of surface then Bent Chips & Rebar mrkr

Supervisor: _____

6-9-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV775

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPU 775 Date: 6-9-10

Project: ROSS ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 600'

SEALING:

Reason: Exploration hole ✓, Final well abandonment _____, Integrity failure _____, DNC _____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 674,

Sealing method: Rig ✓, Drop pipe _____, Hose _____ (check one)

Sealed interval: From 600 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth _____ ft., Plug Depth _____ ft., Type marker _____

General area: Topsoil replacement date _____, Reseed date _____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to settle 48 hrs, Topoff with Dry cement upto
within 2 Ft of Surface ~~w/ Dry~~ Then Bent Chips & Rebar marker

Supervisor: _____

6-9-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0074

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

CAN'T FINE YET DUE TO PIPELINE

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RmR0074 Date: 6-9-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 600'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 674,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 600 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs. Top off w/ Dry cement up to within
2 Ft of Surface then Bent. Chips & Rebar marker

Supervisor: _____

6-9-18 b

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0056

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR0056 Date: 6-9-10

Project: ROSS ISR Contractor: Prongborn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 600'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 674,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 600 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to btm, cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, TOPOFF w/ Dry cement up to
within 2Ft of surface then Bent Chips + Rebar mkr

Supervisor: _____

UNABLE to LOCATE

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR120

Parameters		
Hole diameter	5.25	inches
Hole Depth	690	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	775.905	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6290.8	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	66.9	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	251.6	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	5.0	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	522.0	gallons

CAN'T FINE YET DUE TO PIPELINE

6-3-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR470

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 470 Date: 6-3-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs. Top off w/ Dry Cement up to within ~~3~~ 2Ft
of Surface then Bent Chips + Rebar marker

Supervisor: _____

6-3-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR500

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 500 Date: 6-3-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to settle 48 hrs, Top off w/ Dry Cement up to within 2 Ft
of surface then Bentchips & Rebar marker

Supervisor: _____

6-2-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR503

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 503 Date: 6-2-10

Project: ROSS ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top OFF w/ Dry Cement up to within 2Ft
of surface then Bent chips & Rebar marker

Supervisor: _____

6-2-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR501

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 501 Date: 6-2-10

Project: ROSS ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs. Top off w/ Dry Cement up to within 2Ft
of surface then Bent Chips & Rebar marker

Supervisor: _____

6-2-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR474

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 474 Date: 6-2-10

Project: ROSS ISR Contractor: PRONGHORN DRILLING INC

Lease: _____ Driller: RUSS TAYLOR

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type CEMENT, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top OFF w/ Dry Cement up to within
2FT OF SURFACE then Bent. Chips & Rebar marker

Supervisor: _____

6-1-18

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR473

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 473 Date: 6-1-10

Project: Ross ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top off w/ Dry Cement up to within 2Ft of
Surface then Bent chips + Rebar marker

Supervisor: _____

6-1-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR502

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 502 Date: 6-1-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 208,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

cific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH hole to Btm, Cement thru Drill Pipe, Trip out
Allow to setle 48 hrs, Top OFF ☎ W/ Dry Cement up to within 2Ft of
Surface then Bent chips + Rebar marker

Supervisor: _____

★ Done with RmR 0039 same hole

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR601

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

6-1-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV777

Parameters		
Hole diameter	5.25	inches
Hole Depth	602	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	676.949	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5488.5	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.4	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	219.5	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	455.4	gallons

CAN'T FINE YET DUE TO PIPELINE

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPV 777 Date: 6-1-10

Project: ROSS ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Ross TAylor

Total Hole/Well Depth: 602

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 676,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 602 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top off w/ Dry cement up to within 2Ft
of Surface then Bent chips + Rebar marker

Supervisor: _____

5-31-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV776

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPV 776 Date: 5-31-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 600

SEALING:

Reason: Exploration hole ✓, Final well abandonment _____, Integrity failure _____, DNC _____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 674,

Sealing method: Rig ✓, Drop pipe _____, Hose _____ (check one)

Sealed interval: From 600 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth _____ ft., Plug Depth _____ ft., Type marker _____

General area: Topsoil replacement date _____, Reseed date _____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to settle 48 hrs, Top off w/Dry Cement up to within 2 Ft
of Surface then Bent Chips & Rebar marker

Supervisor: _____

5-31-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR504

Parameters		
Hole diameter	5.25	inches
Hole Depth	635	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	714.0575	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5789.3	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.6	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	231.6	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	480.4	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 504 Date: 5-31-10

Project: Ross ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 635

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 62, Gallons of slurry 714,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 635 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top off w/ Dry Cement up to within 2FT
of surface then Bent Chips + Rebar marker

Supervisor: _____

5-31-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV518

Parameters		
Hole diameter	5.25	inches
Hole Depth	640	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	719.68	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5834.9	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	62.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	233.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	484.2	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPV 518 Date: 5-31-10

Project: Ross ISR Contractor: Pronghorn Drilling

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 640

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 62, Gallons of slurry 720,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 640 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out, Allow to Settle 48 hrs. Top off w/ Dry Cement up to within [redacted]s 3FT of surface then Bent chips & Rebar marker

Supervisor: _____

5-30-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR425

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

5-30-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV517

Parameters		
Hole diameter	5.25	inches
Hole Depth	620	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	697.19	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5652.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	60.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	226.1	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.5	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	469.0	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPV 517 Date: 5-30-10

Project: Ross ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Russ TAylor

Total Hole/Well Depth: 620

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 60, Gallons of slurry 697,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 620 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to settle 48 hrs, Top off w/ Dry Cement up to within ~~48 hrs~~
2 Ft of surface then Bentchips + Rebar Marker

Supervisor: _____

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 425 Date: 5-30-10

Project: ROSS ISR Contractor: Pronghorn Drilling, INC

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 630

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, top of w/ Dry Cement up to within 2Ft
of surface then Bent Chips + Rebar marker

Supervisor: _____

~~SPV515~~
5-30-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV515

Parameters		
Hole diameter	5.25	inches
Hole Depth	641	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	720.8045	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5844.0	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	62.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	233.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	484.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPV 515 Date: 5-30-10

Project: Ross ISR Contractor: Prong horn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 641

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 62, Gallons of slurry 720,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 641 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru pipe, Trip out, Allow to Settle 48 hrs, Top off w/Dry Cement up to within 2 Ft of surface then Bent Chips & Rebar marker

Supervisor: _____

5-29-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0073

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RmR 0073 Date: 5-29-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 600

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 674,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 600 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out ~~top o~~ Allow to settle 48 hrs, Top OFF w/Dry Cement up to within 2Ft of Surface then Bent Chips + ReBAr marker

Supervisor: _____

5-29-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR124

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cernent	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 124 Date: 5-29-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout top off w/Dry Cement up to within 2Ft of surface then Bent Chips + Rebar marker

Supervisor: _____

5-28-10

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR554

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 554 Date: 5-28-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 630'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 61, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to settle 48hrs, top OFF w/ Dry Cement up to 2Ft of surface
then Bent chips + Rebar marker

Supervisor: _____

RMR 272

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0272

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RwiR 0272 Date: 5-19-10

Project: Ross ISR Contractor: Ponghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 660

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip out
Allow to settle 48 hrs, Top off w/ Dry cement up to within
2Ft of surface then Bent Chips & Rebar mkr

Supervisor: _____

RuR 271

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0271

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR0271 Date: 5-19-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 660

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Trip Pipe
Allow to Settle 48hrs, Top OFF w/ Dry Cement to within
2Ft of surface Then Bent. Chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0284

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RmR0284 Date: 5-19-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 660

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ fl., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash Hole to Btm, Cement thru pipe, Tripout
Allow to settle 48 hrs then top OFF w/ Dry Cement
w/ Dry Cement up to 2Ft of surface then Bent Chips the Bar
mrks

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPV774

Parameters		
Hole diameter	5.25	inches
Hole Depth	600	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	674.7	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5470.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	58.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	218.8	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	453.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPU774 Date: 5-20-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 608

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 58, Gallons of slurry 674,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 608 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement Thru Pipe. Trip out
Allow to settle 48 hrs. Top off w/ Dry cement up to within
2Ft of surface then Bent Chips & Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR505

Parameters		
Hole diameter	5.25	inches
Hole Depth	680	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	764.66	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6199.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	66.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	248.0	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	5.0	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	514.4	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 505 Date: 5-20-10

Project: ROSS ISR Contractor: PRONGHORN DRILLING INC

Lease: _____ Driller: RUSS TAYLOR

Total Hole/Well Depth: 680'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type CEMENT, Number of bags 66, Gallons of slurry 764,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 680 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH HOLE TO BTM, CEMENT THRU DRILL PIPE, TRIP OUT & ALLOW TO SETTLE 48 HOURS. TOP OFF W/ DRY CEMENT TO 2FT OF SURFACE THEN BENT CHIPS & REBAR MKR

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR552

Parameters		
Hole diameter	5.25	inches
Hole Depth	630	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	708.435	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5743.7	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	61.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	229.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	476.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 552 Date: 5-20-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 630'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 60, Gallons of slurry 708,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 630 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement Thru Drill Pipe, Trip out. Allow to settle 48 hrs. Top off with Dry Cement up to within 2 Ft of surface then Bent chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0278

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 0278 Date: 5-18-10

Project: Ross ISR Contractor: Pronghorn Drilling, Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 660'

SEALING:

Reason: Exploration hole ✓, Final well abandonment _____, Integrity failure _____, DNC _____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe _____, Hose _____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth _____ ft., Plug Depth _____ ft., Type marker _____

General area: Topsoil replacement date _____, Reseed date _____

REMARKS:

Wash hole to BTM, Cement Thru Pipe, Tripout
Allow to settle 48 hrs. Bring to within 2Ft of
Surface w/Dry Cement Then Bent. Chips + Rebar mrkr

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0281

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cernent	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 281 Date: 5-18-10

Project: ROSS ISR Contractor: PRONGHORN DRILLING

Lease: _____ Driller: RUSS TAYLOR

Total Hole/Well Depth: 660'

SEALING:

Reason: Exploration hole ✓, Final well abandonment _____, Integrity failure _____, DNC _____ (check one)

Sealing material: Type CEMENT, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe _____, Hose _____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth _____ ft., Plug Depth _____ ft., Type marker _____

General area: Topsoil replacement date _____, Reseed date _____

REMARKS:

WASH to BTM, CEMENT THRU PIPE, TRIPOUT
ALLOW to SETTLE 48 HRS. BRING to WITHIN 2FT
OF SURFACE W/ DRY CEMENT THEN BENT CHIPS + REBAR MRKR

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR424

Parameters		
Hole diameter	5.25	inches
Hole Depth	651	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	732.0495	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5935.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	237.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	492.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 424 Date: 5-18-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 650'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 63, Gallons of slurry 732,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 650 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to BTM, Cement Thru Drill Pipe, Trip out
Allow to settle 48 hrs Then Bring to within 2 Ft
of Surface w/ Dry Cement Then Bent chips & Rebar mrkr

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR506

Parameters		
Hole diameter	5.25	inches
Hole Depth	651	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	732.0495	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5935.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	237.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	492.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 506 Date: 5-17-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 651

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type cement, Number of bags 63, Gallons of slurry 732,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 651 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH hole to Btm, Pump Cement thru Drill Pipe Trip Pipe. Allow to Settle 48 hrs. Top OFF w/ Dry Cement up to 2Ft of SURFACE then Bent chips + Rebar MARKER

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR114

Parameters		
Hole diameter	5.25	inches
Hole Depth	840	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	944.58	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	7658.3	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	81.5	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	306.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	6.1	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	635.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 114 Date: 5-17-10

Project: ROSS ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Ross Tolby

Total Hole/Well Depth: 840

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 81.5, Gallons of slurry 945,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 840 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to settle 48 hrs. Top off w/ Dry Cement up to 2Ft
of Surface then Bent Chips + Repair Marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0039

Parameters		
Hole diameter	5.25	inches
Hole Depth	620	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	697.19	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5652.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	60.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	226.1	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.5	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	469.0	gallons

CAN'T FINE YET DUE TO PIPELINE

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 0039 Date: 5-17-10

Project: ROSS ISR Contractor: Pronghorn Drilling INC

Lease: _____ Driller: Russ Tayler

Total Hole/Well Depth: 620

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 60, Gallons of slurry 697,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 620 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Cement thru Drill Pipe, Tripout
Allow to Settle 48 hrs. Top off w/ Dry Cement up to 2Ft
From Surface then Bent Chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0042

Parameters		
Hole diameter	5.25	inches
Hole Depth	660	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	742.17	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6017.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	64.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	240.7	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.8	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	499.3	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR0042 Date: 5-16-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 660

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 64, Gallons of slurry 742,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 660 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm, Pump Cement thru Pipe to surface, Trip Pipe Allow to settle 48 hrs, Top off w/ Dry Cement up to 2 ft of surface then Bent chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0044

Parameters		
Hole diameter	5.25	inches
Hole Depth	640	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	719.68	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5834.9	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	62.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	233.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	484.2	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 0044 Date: 5-16-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 640'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 62, Gallons of slurry 720,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 640 ft. to 0 ft.

SURFACE RECLAMATION:

›ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to BTM Pump Cement Thru Drill Pipe to Surface, Trip Pipe + Allow to Settle 48 hrs. Top OFF with Dry Cement up to 2Ft then Bent. Chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR602

Parameters		
Hole diameter	5.25	inches
Hole Depth	1312	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	1475.344	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	11961.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	127.3	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	478.5	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	9.6	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	992.6	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 602 Date: 4-29-02

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 1312

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 127, Gallons of slurry 1475,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 1312 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Bottom Pump Cement thru Drill Pipe in 2 stages. Allow Cement to Settle 48 hrs + top off with Dry Cement up to within 2 Ft of surface then Bring to surface with Bent Chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # RMR0043

Parameters		
Hole diameter	5.25	inches
Hole Depth	620	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	697.19	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5652.6	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	60.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	226.1	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.5	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	469.0	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: RMR 43 Date: 4-28-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 620

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 60, Gallons of slurry 697,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 620 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Btm Pump Cement thru Drill Pipe & Tripout Allow Cement to Settle 48 hrs & Top OFF w/Dry Cement Up to within 2 Ft of Surface then Bent Chip to top w/Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR126

Parameters		
Hole diameter	5.25	inches
Hole Depth	690	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	775.905	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6290.8	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	66.9	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	251.6	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	5.0	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	522.0	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR-126 Date: 4-27-10

Project: Ross ISR Contractor: Pronghorn Drilling

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 690'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 67, Gallons of slurry 776,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 690 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Bottom Cement thru Drill Pipe + TMP out
Allow Cement to settle 48 hrs + top off w/ Dry Cement
to within 2Ft of Surface And bring to surface w/ Bentchips
+ Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR507

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

CAN'T FINE YET DUE TO PIPELINE

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 507 Date: 4-28-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment _____, Integrity failure _____, DNC _____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe _____, Hose _____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth _____ ft., Plug Depth _____ ft., Type marker _____

General area: Topsoil replacement date _____, Reseed date _____

REMARKS:

Wash Hole to TD Pump Cement Thru Drill Pipe to surface
Trip Pipe. Allow to settle 48 hrs. top OFF w/ Dry cement up to 2Ft
From top then Bent chips w/ Rebar marker to surface

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR509

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 509 Date: 4-28-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash Hole to TD Pump Cement Thru Drill Pipe, Trip Pipe & Allow Cement to Settle 48 hrs Then top w/ Dry Cement to within 2 Ft of Surface. Finish w/ Bent chips & Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR551

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR 551 Date: 5-28-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash to TD Cement thru Drill Pipe then Trip out
Allow to Settle 48 hrs then top off w/ Dry Cement
And top off to within 2Ft off Surface w/ Bent Chips then Rebar
marker to Surface

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR508

Parameters		
Hole diameter	5.25	inches
Hole Depth	690	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	775.905	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6290.8	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	66.9	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	251.6	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	5.0	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	522.0	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR-508 Date: 4-27-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 690

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 67, Gallons of slurry 776,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 690 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to TD Pump Cement Slurry Thru Drill Pipe, Trip Pipe
Allow to Settle 48 hrs Top off w/Dry Cement to within 2 Ft From
Surface Fill to Top w/ Bent Chips + Repair Marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

	HOLE # SPR477	
Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR. 477 Date: 4-27-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 670'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash hole to Bottom Cement thru Drill Pipe, Trip out
Allow to Settle 48hrs Top OFF to within 3Ft w/ Dry Cement
And Bring to surface w/ Bent chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR475

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR-475 Date: 5-23-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash Hole to Bottom Pump Cement Slurry thru Drill Pipe to Surface Allow to settle. Dry Bag w/cement within 2 Feet of Surface then 2 Ft ~ 0' w/ Bent Chips + Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR600

Parameters		
Hole diameter	5.25	inches
Hole Depth	610	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	685.945	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5561.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	59.2	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	222.5	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.4	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	461.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR-600 Date: 4-22-10

Project: ROSS ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 610'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 59, Gallons of slurry 6860,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 610 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

WASH to BTM w/Drill Pipe Cement BACK to Surface Thru Pipe. Allow to settle Dry Bag Cement to 2 Feet then to Surface with Bent Chips & Rebar MARKer

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR472

Parameters		
Hole diameter	5.25	inches
Hole Depth	651	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	732.0495	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5935.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	237.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	492.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR - 472 Date: 4 - 22 - 10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 650'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 63, Gallons of slurry 732,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 650 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash to Btm Slurry Pumped thru Drill Pipe
Topped OFF w/ Dry Cement to within 2 Feet of surface
Then 2' - 0' with Bent Chips + Rebar For marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR479

Parameters		
Hole diameter	5.25	inches
Hole Depth	670	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	753.415	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	6108.4	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	65.0	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	244.3	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.9	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	506.9	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR - 479 Date: 4-26-10

Project: Ross ISR Contractor: Pronghorn Drilling Inc

Lease: _____ Driller: Ross Taylor

Total Hole/Well Depth: 670

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 65, Gallons of slurry 753,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 670 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Wash to Bottom with Drill Pipe Pump Cement Slurry Thru Pipe to Surface. Allow to settle Fill w/ Dry Cement within 2 Ft' of Surface Place Bent Chips 2Ft - 0' w/ Rebar marker

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR422

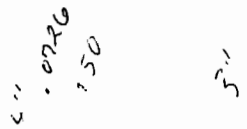
Parameters		
Hole diameter	5.25	inches
Hole Depth	650	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	730.925	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5926.1	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.0	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	237.0	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	491.7	gallons



STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR - 422 Date: 4-21-10

Project: Ross ISR Contractor: Pronghorn Drilling

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 650'

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 63, Gallons of slurry 731,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 650 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Bentchip seal Placed Last 2 Feet w/ Rebar marker
+ Hole stake Pit Reclaimed
Dry Cement Brought up to 2 Feet

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

5.8
14.1

HOLE # SPR471

Parameters		
Hole diameter	5.25	inches
Hole Depth	651	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.

Cement slurry calculation		
Hole depth x capacity of hole x 1.20	732.0495	gallons cement slurry

Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5935.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.1	bags dry cement

Bentonite calculation		
Total lbs. dry cement x .04	237.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite

Mix water calculation		
Gallons of mix water per bag cement x bags of cement	492.5	gallons

650
651
651
1952

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR-471 Date: 4-21-10

Project: Ross ISR Contractor: Pronghorn Drilling

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 651

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 63, Gallons of slurry 732,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 651 ft. to 0 ft.

SURFACE RECLAMATION:

:ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Topped off w/ Dry Cement up to 2 Feet From surface then Bent Chips to surface w/ Rebar & hole stake to mark Hole

Supervisor: _____

Abandonment Cementing Worksheet
K:\Peninsula_Minerals\09142\Strata\017 Wellfield Permitting\[dnccementingCalcs.xls]Sheet1
20-Apr-10

HOLE # SPR478

Parameters		
Hole diameter	5.25	inches
Hole Depth	651	ft.
Weight / bag dry cement	94	lbs.
Mix water / bag dry cement	7.8	gallons
Mix water/ lb. dry cement	0.082979	gallons
Bentonite percentage	4	%
Slurry weight	14.1	lbs. / gal.
Cu. ft.cement slurry / bag cement	1.55	
Gallons cement slurry / bag dry cement	11.6	gallons
Gallons cement slurry / lb. dry cement	0.12334	gallons
Excess cement return	0	%
Capacity of hole	1.1245	gallons / ft.
Cement slurry calculation		
Hole depth x capacity of hole x 1.20	732.0495	gallons cement slurry
Cement calculation		
Total cement slurry / gallons cement slurry per lb. dry cement	5935.2	lbs. dry cement
Total lbs. dry cement / lbs. per bag dry cement	63.1	bags dry cement
Bentonite calculation		
Total lbs. dry cement x .04	237.4	lbs. bentonite
Total lbs. bentonite / lbs. per bag bentonite	4.7	bags bentonite
Mix water calculation		
Gallons of mix water per bag cement x bags of cement	492.5	gallons

STRATA ENERGY--ABANDONMENT RECORD

Hole/Well Number: SPR-478 Date: 4-21-10

Project: Ross ISR Contractor: Pronghorn Drilling

Lease: _____ Driller: Russ Taylor

Total Hole/Well Depth: 651

SEALING:

Reason: Exploration hole ✓, Final well abandonment_____, Integrity failure_____, DNC_____ (check one)

Sealing material: Type Cement, Number of bags 63, Gallons of slurry 732,

Sealing method: Rig ✓, Drop pipe_____, Hose_____ (check one)

Sealed interval: From 651 ft. to 0 ft.

SURFACE RECLAMATION:

ific to location: Casing cutoff depth_____ ft., Plug Depth _____ ft., Type marker_____

General area: Topsoil replacement date_____, Reseed date_____

REMARKS:

Bent chip seal last 2 Feet w/ Rebar & hole stake
At surface Pit Reclaimed
Dry cement Brought up to 2 Foot From surface

Supervisor: _____

Appendix 9
Ross Project Core Permeability Data

Laboratory Core Analyses for Lance-Fox Hills Formations, Ross Project

Parameters for Sandstone Samples								
Sample Number[1]	Depth (ft)	Porosity (%)	Horizontal Permeability (K_h)		Vertical Permeability (K_v)		K_v/K_h	Lithology
			millidarcies	ft/day	millidarcies	ft/day		
RMRD 0004	520.3	40.7	4266	8.8				Sandstone; minor shale
RMRD 0004	509.8	46.6	2496	5.2				Sandstone, very fine-grained, gray, subrounded to subangular
RMRD 0004	510.5	45.9	5718	11.9				Sandstone; very fine-grained gray, subrounded to subangular
RMRD 0004	504.8	43.9	1135	2.4				Sandstone; very fine-grained, gray, with thin 1-2cm shale breaks
RMRD 0003	451.9	41.3	1772	3.7				Sandstone; very fine-grained, dark gray, coarsening upwards sequence
RMRD 0003	446.5	38.9	1261	2.6				Sandstone; very fine-grained dark gray, coarsening upwards sequence
RMRD 0003	440.4	42.0	2075	4.3				Sandstone; very fine-grained, light gray, angular to subangular
RMRD 0001	578.6	42.2	2719	5.6				Sandstone; fine-grained, light gray, common shale clasts to 12 cm
RMRD 0001	534.0	41.1	1828	3.8				Sandstone; minor shale
Nubeth 477V	379.8		1754	3.6	1604	3.3	0.91	Sandstone
Nubeth 477V	381.8		1834	3.8	597	1.2	0.33	Sandstone
Nubeth 477V	390.3		2240	4.6	2032	4.2	0.91	Sandstone
Nubeth 477V	411.0		2927	6.1	2152	4.5	0.74	Sandstone
Nubeth 477V	433.5		2652	5.5	2187	4.5	0.82	Sandstone
Nubeth 477V	450.5		1467	3.0	1262	2.6	0.86	Sandstone
Nubeth 477V	500.0	34.0	1934	4.0	1915	4.0	0.99	Sandstone
Nubeth 477V	506.5	37.8	2253	4.7	1239	2.6	0.55	Sandstone
Nubeth 477V	507.0	35.6	1971	4.1	184	0.4	0.09	Sandstone
Nubeth 477V	511.0	36.2	3380	7.0	2160	4.5	0.64	Sandstone
Nubeth 477V	517.0	28.6	3944	8.2	2892	6.0	0.73	Sandstone
Nubeth 477V	543.0	36.4	2629	5.5	2291	4.8	0.87	Sandstone
Nubeth 477V	557.0	32.2	2629	5.5	2291	4.8	0.87	Sandstone
RMD00007-016	456.0	41.7	2193	4.5	669	1.4	0.31	Sandstone; light gray, firm, moderately friable
RMRD 0003	482.1	42.2	1988	4.1				Silt; very fine-grained sandstone, gray
Average		**39.3**	**2461**	**5.1**	**1677**	**3.5**	**0.68**	

Laboratory Core Analyses for Lance-Fox Hills Formations, Ross Project

Sample Number[1]	Depth (ft)	Porosity (%)	Horizontal Permeability (K_h)		Vertical Permeability (K_v)		K_v/K_h	Lithology
			millidarcies	ft/day	millidarcies	ft/day		
Parameters for Siltstone Samples								
RMRD 0001	543	38.8	87	0.180				Siltstone; with thin sandy layers
Nubeth 477V	508	32.8	317	0.657	16	0.033	0.05	Siltstone/mudstone
Nubeth 477V	524	19.6	51	0.106	34	0.071	0.67	Siltstone/mudstone
Nubeth 477V	531	27.6	254	0.527	223	0.462	0.88	Siltstone/mudstone
RMD0007-015	448.4	33.4	79.2	0.164	25.4	0.053	0.32	Siltstone; dark gray, laminated, few breaks on bedding, firm
Average		**30.4**	**157.6**	**0.327**	**74.6**	**0.155**	**0.47**	
Parameters Shale Samples								
RMRD 0001	589.5	37.4	78.6	0.163				Shale; black dense
RMRD 0001	588.8	38.1	65	0.135				Shale; black dense
Nubeth 477V	482.5	24.1	1.5	0.003	0.01	0.000	0.007	Shale/siltstone
Nubeth 477V	490.6	27.8	38	0.079	5	0.010	0.132	Shale/mudstone
Nubeth 477V	421		3.5	0.007	0.77	0.002	0.286	Shale/siltstone
Nubeth 477V	544	29.8	14	0.029	0.9	0.002	0.069	Shale
Nubeth 477V	573	25.9	8.8	0.018	0.01	0.000	0.001	Shale;
RMD0006-001A	325	24.1	68.4	0.142	0.5	0.001	0.007	Claystone; gray, competent, few carbonaceous laminations
RMD0006-002A	333.5	24.2	71.5	0.148	0.0	0.000	0.000	Claystone; light brown, bioturbation, competent
RMD0006-004A	465.5	30.2	17.7	0.037	4.25	0.009	0.240	Claystone/siltstone; interlaminated, even claystones are silty
RMD0007-018	477.2	28.7	27.3	0.057	0.0	0.000	0.000	Claystone; dark gray, firm
Average		**29.0**	**35.8**	**0.074**	**1.3**	**0.003**	**0.04**	
Parameters for Shale/Sandstone Mix Samples								
RMRD 0003	473.7	42.9	1460	3.027				Shale; gray with sandstone interbeds 1-2cm
RMRD 0003	473	40.7	830	1.721				Shale; gray with sandstone interbeds 1-2cm
RMRD 0003	458.7	34.5	151	0.313				Shale; with sand
RMRD 0003	454.3	34.0	80.5	0.167				Shale; with sand
RMRD 0002	407.5	28.9	38.5	0.080				Sandstone; fine-grained, shaley, shale clasts to 8cm
RMRD 0004	502	38.6	156	0.323				Shale; dark gray, with sandstone beds
RMD0006-003A	434.6	28.8	22.3	0.046	13.8	0.029	0.62	Clay pebble zone in sand matrix
Average		**35.5**	**391**	**0.811**	**13.8**	**0.029**	**0.04**	

Laboratory Core Analyses for Lance-Fox Hills Formations, Ross Project

Parameters for Sandstone/Siltstone Mix Samples								
Sample Number[1]	Depth (ft)	Porosity (%)	Horizontal Permeability (K_h)		Vertical Permeability (K_v)		K_v/K_h	Lithology
			millidarcies	ft/day	millidarcies	ft/day		
RMRD 0003	491.1	43.4	345	0.715				Sandstone; very fine-grained, silty, carbonaceous laminations above lower shale contact
RMRD 0003	462.7	45.3	990	2.053				Sandstone; very fine-grained, light gray, with silt, poorly sorted
RMRD 0001	560.8	38.8	605	1.255				Sandstone, with silt
RMD0007-017	469.2	37.4	689	1.429	214	0.444	0.31	Sandstone; silty, light gray, with numerous dark clay fragments
RMRD 0001	571.12	31.9	179	0.371				Sandstone; very fined-grained, light gray.
Average		**39.4**	**561.6**	**1.165**	**214**	**0.444**	**0.38**	
Parameters for Cemented Sandstone Sample								
RMRD 0001	585.9	14.3	1.56	0.003				Sandstone; carbonate cement at 585' to 586'

[1] Nubeth sample (core hole number 477V) information is from Hamilton (1977). Numbers RMRD 0001 through RMRD 0004 and RMD0006 and RMD0007 are from core samples collected by Strata in 2009-2010.