					KJ	Env	viror	nmental						
	LOCATION: OWL BOBCAT/REDHILLS PIPELINE RELEASE SPILL AREA 2													
DATE	Sample Pt.	DEPTH		WATER	CF	AgNO <sub>3</sub>	CL-	SOIL LITHOLOGY	FIELD SCREENING HORIBA D-73	I	BLENDED Y / N			
						TES	ST STOCKP	ILES	-					
27-Apr	TSS1	1'	-	-	-	-	-	sandy sand damp	10.3	-	Ν			
	TSS1	2'	-	-	-	-	-	sandy sand damp	12.4	-	N			
	TSS1	3'	-	-	-	-	-	sandy sand damp	19.3	-	N			
	TSS1	4'	19	44	2.32	0.05	116	sandy sand damp	-	12.7	N			
	TSS2	1'	-	-	-	-	-	sandy sand damp	19.6	-	N			
	TSS2	2'	-	-	-	-	-	sandy sand damp	21.4	-	N			
	TSS2	3'	-	-	-	-	-	sandy sand damp	18.3	-	N			
	TSS2	4'	18	45	2.50	0.05	125	sandy sand damp	-	21.9	N			
	TSS3	1'	-	-	-	-	-	sandy sand damp	17.7	-	N			
	TSS3	2'	-	-	-	-	-	sandy sand damp	19.8	-	N			
	TSS3	3'	-	-	-	-	-	sandy sand damp	22.1	-	N			
	TSS3	4'	15	48	3.20	0.03	96	sandy sand damp	-	11	N			
	TSS4	1'	-	-	-	-	-	sandy sand damp	14.4	-	N			
	TSS4	2'	-	-	-	-	-	sandy sand damp	14.8	-	N			
	TSS4	3'	-	-	-	-	-	sandy sand damp	13.6	-	N			
	TSS4	4'	24	47	1.96	0.03	59	sandy sand damp	-	9.03	N			
	TSS5	1'	-	-	-	-	-	sandy sand damp	13.9	-	N			
	TSS5	2'	-	-	-	-	-	sandy sand damp	15.1	-	Ν			
	TSS5	3'	-	-	-	-	-	sandy sand damp	15.3	-	Ν			
	TSS5	4'	20	45	2.25	0.03	67	sandy sand damp	-	4.9	Ν			
	TSS6	1'	-	-	-	-	-	sandy sand damp	11.2	-	N			
	TSS6	2'	-	-	-	-	-	sandy sand damp	11.6	-	N			
	TSS6	3'	-	-	-	-	-	sandy sand damp	9.7	-	N			
	TSS6	4'	21	49	2.33	0.03	70	sandy sand damp	-	5	N			
						Α	STOCKPIL	ES						
26-Apr	ASP1	1'	18	45	2.50	0.16	400	sandy sand damp	-	-	N			
	ASP2	1'	21	43	2.05	0.20	409	sandy sand damp	-	-	N			

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	ASP3	1'	22	44	2.00	0.19	380	sandy sand damp	-	-	Ν
	ASP4	1'	22	49	2.23	0.31	690	sandy sand damp	-	-	Ν
	ASP5	1'	19	45	2.37	0.24	568	sandy sand damp	-	-	Ν
	ASP6	1'	21	45	2.14	0.17	364	sandy sand damp	-	-	Ν
	ASP7	1'	20	48	2.40	0.16	384	sandy sand damp	-	-	Ν
	ASP8	1'	21	45	2.14	0.27	578	sandy sand damp	-	-	Ν
	ASP9	1'	21	45	2.14	0.34	728	sandy sand damp	-	-	Ν
	ASP10	1'	23	48	2.09	0.26	542	sandy sand damp	-	548	Ν
31-May	ASP11	1'	-	-	-	-	-	sandy sand damp	400.0	-	Ν
	ASP12	1'	-	-	-	-	-	sandy sand damp	292.8	-	Ν
	ASP13	1'	-	-	-	-	-	sandy sand damp	432.0	-	Ν
	ASP14	1'	-	-	-	-	-	sandy sand damp	370.4	-	Ν
	ASP15	1'	-	-	-	-	-	sandy sand damp	334.4	-	Ν
	ASP16	1'	-	-	-	-	-	sandy sand damp	332	-	Ν
	ASP17	1'	-	-	-	-	-	sandy sand damp	393.2	-	Ν
	ASP18	1'	-	-	-	-	-	sandy sand damp	338.8	-	Ν
	ASP19	1'	-	-	-	-	-	sandy sand damp	644	-	Ν
1-Jun	ASP20	1'	-	-	-	-	-	sandy sand damp	334	316	Ν
	ASP21	1'	-	-	-	-	-	sandy sand damp	412	-	Ν
	ASP22	1'	-	-	-	-	-	sandy sand damp	321.6	-	Ν
	ASP23	1'	-	-	-	-	-	sandy sand damp	548	-	Ν
	ASP24	1'	-	-	-	-	-	sandy sand damp	389.2	-	Ν
	ASP25	1'	-	-	-	-	-	sandy sand damp	96	-	Ν
	ASP26	1'	-	-	-	-	-	sandy sand damp	279.6	-	Ν
	ASP27	1'	-	-	-	-	-	sandy sand damp	424	-	Ν
	ASP28	1'	-	-	-	-	-	sandy sand damp	484	-	Ν
	ASP29	1'	-	-	-	-	-	sandy sand damp	372.8	-	Ν
	ASP30	1'	-	-	-	-	-	sandy sand damp	572	607	Ν
	ASP31	1'	-	-	-	-	-	sandy sand damp	195.2	-	Ν
	ASP32	1'	-	-	-	-	-	sandy sand damp	440	-	Ν
	ASP33	1'	-	-	-	-	-	sandy sand damp	393.6	-	Ν
	ASP34	1'	-	-	-	-	-	sandy sand damp	356.8	-	Ν
	ASP35	1'	-	-	-	-	-	sandy sand damp	314.8	-	Ν
	ASP36	1'	-	-	-	-	-	sandy sand damp	412	-	Ν

	ASP37	1'	-	-	-	-	-	sandy sand damp	387.2	-	Ν
	ASP38	1'	-	-	-	_	-	sandy sand damp	294	_	N
	ASP39	1'	-	-	-	-	-	sandy sand damp	397.6	-	N
	ASP40	1'	-	-	-	-	-	sandy sand damp	223.6	200	N
	ASP41	1'	-	-	-	-	-	sandy sand damp	118	180	N
	ASP42	1'	-	-	-	-	-	sandy sand damp	131.6	183	Ν
	ASP43	1'	-	-	-	-	-	sandy sand damp	266	380	Ν
	ASP44	1'	-	-	-	-	-	sandy sand damp	106.4	176	Ν
	ASP45	1'	-	-	-	-	-	sandy sand damp	293.2	388	Ν
	ASP46	1'	-	-	-	-	-	sandy sand damp	142	202	Ν
	ASP47	1'	-	-	-	-	-	sandy sand damp	98	163	Ν
	ASP48	1'	-	-	-	-	-	sandy sand damp	229.2	322	Ν
	ASP49	1'	-	-	-	-	-	sandy sand damp	180.8	195	Ν
	ASP50	1'	-	-	-	-	-	sandy sand damp	130.8	192	Ν
	ASP51	1'	-	-	-	-	-	sandy sand damp	113.6	-	Ν
	ASP52	1'	-	-	-	-	-	sandy sand damp	250.4	-	Ν
	ASP53	1'	-	-	-	-	-	sandy sand damp	280.4	-	Ν
	ASP54	1'	-	-	-	-	-	sandy sand damp	201.6	-	Ν
	ASP55	1'	-	-	-	-	-	sandy sand damp	209.2	-	Ν
	ASP56	1'	-	-	-	-	-	sandy sand damp	124.4	-	Ν
	ASP57	1'	-	-	-	-	-	sandy sand damp	117.6	-	Ν
	ASP58	1'	-	-	-	-	-	sandy sand damp	169.2	-	Ν
	ASP59	1'	-	-	-	-	-	sandy sand damp	197.6	-	Ν
26-Jun	ASP60	1'	-	-	-	-	-	sandy sand damp	160	-	Ν
	ASP61	1'	-	-	-	-	-	sandy sand damp	448	-	Ν
	ASP62	1'	-	-	-	-	-	sandy sand damp	143.2	-	Ν
							B STOCKPILE	S			
6-Jun	B1	1'	-	-	-	-	-	sandy sand damp	260	-	Ν
	B2	1'	-	-	-	-	-	sandy sand damp	329.6	-	Ν
	B3	1'	-	-	-	-	-	sandy sand damp	254	-	Ν
	B4	1'	-	-	-	-	-	sandy sand damp	260	-	Ν
	B5	1'	-	-	-	-	-	sandy sand damp	329.6	-	Ν
	B6	1'	-	-	-	-	-	sandy sand damp	254	-	Ν
	B7	1'	-	-	-	-	-	sandy sand damp	138	-	Ν

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	B8	1'	-	-	-	-	-	sandy sand damp	249.6	-	Ν
	B9	1'	-	-	-	-	-	sandy sand damp	137.6	-	Ν
	B10	1'	-	-	-	-	-	sandy sand damp	291.2	296	Ν
	B11	1'	-	-	-	-	-	sandy sand damp	580	-	Ν
	B12	1'	-	-	-	-	-	sandy sand damp	428	-	Ν
	B13	1'	-	-	-	-	-	sandy sand damp	260.4	-	Ν
	B14	1'	-	-	-	-	-	sandy sand damp	104.8	-	Ν
	B15	1'	-	-	-	-	-	sandy sand damp	296.8	-	Ν
	B16	1'	-	-	-	-	-	sandy sand damp	277.6	-	Ν
	B17	1'	-	-	-	-	-	sandy sand damp	283.2	-	Ν
	B18	1'	-	-	-	-	-	sandy sand damp	452	-	Ν
	B19	1'	-	-	-	-	-	sandy sand damp	208.4	-	Ν
	B20	1'	-	-	-	-	-	sandy sand damp	354.8	127	Ν
	B21	1'	-	-	-	-	-	sandy sand damp	243.6	-	Ν
	B22	1'	-	-	-	-	-	sandy sand damp	334	-	Ν
	B23	1'	-	-	-	-	-	sandy sand damp	456	-	Ν
	B24	1'	-	-	-	-	-	sandy sand damp	386.4	-	Ν
	B25	1'	-	-	-	-	-	sandy sand damp	1376	-	Y
	B26	1'	-	-	-	-	-	sandy sand damp	524	-	Ν
	B27	1'	-	-	-	-	-	sandy sand damp	1016	-	Y
	B28	1'	-	-	-	-	-	sandy sand damp	296	-	Ν
	B29	1'	-	-	-	-	-	sandy sand damp	584	-	Ν
	B30	1'	-	-	-	-	-	sandy sand damp	257.6	266	Ν
	B31	1'	-	-	-	-	-	sandy sand damp	276.8	-	Ν
26-Apr	BSP1	1'	19	49	2.58	0.07	180	sandy sand damp	-	-	Ν
	BSP2	1'	15	49	3.27	0.28	914	sandy sand damp	-	-	Y
	BSP3	1'	15	46	3.07	0.17	521	sandy sand damp	-	-	Ν
	BSP4	1'	16	42	2.63	0.19	499	sandy sand damp	-	-	Ν
	BSP5	1'	15	51	3.40	0.27	918	sandy sand damp	-	-	Y
	BSP6	1'	18	51	2.83	0.53	1501	sandy sand damp	-	-	Y
	BSP7	1'	16	50	3.13	0.38	1187	sandy sand damp	-	-	Y
	BSP8	1'	15	50	3.33	0.26	866	sandy sand damp	-	-	Y
	BSP9	1'	20	54	2.70	0.29	783	sandy sand damp	-	-	Y
	BSP10	1'	19	49	2.58	0.27	696	sandy sand damp	-	-	Ν

	BSP11	1'	16	50	3.13	0.31	968	sandy sand damp	-	-	Y
	BSP12	1'	23	44	1.91	0.43	822	sandy sand damp	-	-	Y
	BSP13	1'	22	44	2.00	0.77	1540	sandy sand damp	-	-	Y
	BSP14	1'	18	44	2.44	0.62	1515	sandy sand damp	-	-	Y
	BSP15	1'	18	42	2.33	0.51	1190	sandy sand damp	-	-	Y
	BSP16	1'	19	43	2.26	0.57	1290	sandy sand damp	-	-	Y
	BSP17	1'	19	50	2.63	0.34	894	sandy sand damp	-	-	Y
	BSP18	1'	25	37	1.48	0.17	252	sandy sand damp	-	-	Ν
	BSP19	1'	17	43	2.53	0.48	1214	sandy sand damp	-	-	Y
	BSP20	1'	18	47	2.61	0.2	522	sandy sand damp	-	-	Ν
	BSP21	1'	15	45	3.00	0.15	450	sandy sand damp	-	-	Ν
	BSP22	1'	17	51	3.00	0.15	450	sandy sand damp	-	-	Ν
	BSP23	1'	19	45	2.37	0.09	213	sandy sand damp	-	-	Ν
	BSP24	1'	21	43	2.05	0.1	205	sandy sand damp	-	-	Ν
	BSP25	1'	23	42	1.83	0.18	329	sandy sand damp	-	-	Ν
	BSP26	1'	24	47	1.96	0.28	548	sandy sand damp	-	-	Ν
	BSP27	1'	24	46	1.92	0.51	977	sandy sand damp	-	-	Y
	BSP28	1'	18	47	2.61	0.18	470	sandy sand damp	-	-	Ν
	BSP29	1'	21	45	2.14	0.19	407	sandy sand damp	-	-	Ν
	BSP30	1'	19	44	2.32	0.4	926	sandy sand damp	-	-	Y
	BSP31	1'	18	45	2.50	0.46	1150	sandy sand damp	-	-	Y
	BSP32	1'	19	48	2.53	0.65	1642	sandy sand damp	-	-	Y
	BSP33	1'	19	46	2.42	0.36	871	sandy sand damp	-	-	Y
	BSP34	1'	19	48	2.53	0.34	859	sandy sand damp	-	-	Y
	BSP35	1'	22	46	2.09	0.75	1568	sandy sand damp	-	-	Y
	BSP36	1'	22	47	2.14	0.5	1068	sandy sand damp	-	-	Y
	BSP37	1'	19	43	2.26	0.84	1900	sandy sand damp	-	-	Y
	BSP38	1'	22	42	1.91	0.81	1546	sandy sand damp	-	-	Y
	BSP39	1'	18	41	2.28	0.28	638	sandy sand damp	-	-	Ν
	BSP40	1'	24	44	1.83	0.75	1375	sandy sand damp	-	-	Y
*Stockpiles in section B were reblended with sections C and F.											
						C	STOCKPILI	ES			
27-Apr	CSP1	1'	19	46	2.42	0.16	387	sandy sand damp	-	-	Ν
	CSP2	1'	17	46	2.71	0.15	406	sandy sand damp	-	-	Ν

	CSP3	1'	15	44	2.93	0.12	352	sandy sand damp	-	-	Ν
	CSP4	1'	12	48	4.00	0.2	800	sandy sand damp	-	-	Ν
	CSP5	1'	19	45	2.37	0.17	403	sandy sand damp	-	-	Ν
	CSP6	1'	14	43	3.07	0.3	921	sandy sand damp	-	-	Ν
	CSP7	1'	18	49	2.72	0.52	1415	sandy sand damp	-	-	Y
	CSP8	1'	17	48	2.82	0.3	847	sandy sand damp	-	-	Ν
	CSP9	1'	19	44	2.32	0.24	556	sandy sand damp	-	-	Ν
	CSP10	1'	22	47	2.14	0.46	982	sandy sand damp	-	*	Ν
	CSP11	1'	22	43	1.95	0.64	1251	sandy sand damp	-	-	Y
	CSP12	1'	17	43	2.53	0.39	986	sandy sand damp	-	-	Ν
	CSP13	1'	15	46	3.07	0.56	1717	sandy sand damp	-	-	Y
	CSP14	1'	19	46	2.42	0.27	653	sandy sand damp	-	-	Ν
	CSP15	1'	21	46	2.19	0.43	942	sandy sand damp	-	-	Ν
	CSP16	1'	24	41	1.71	0.44	751	sandy sand damp	-	-	Ν
	CSP17	1'	19	47	2.47	0.26	643	sandy sand damp	-	-	Ν
	CSP18	1'	18	46	2.56	0.3	766	sandy sand damp	-	-	Ν
	CSP19	1'	28	40	1.43	0.59	843	sandy sand damp	-	-	Ν
	CSP20	1'	17	43	2.53	0.3	759	sandy sand damp	-	*	Ν
	CSP21	1'	14	41	2.93	0.18	527	sandy sand damp	-	-	Ν
	CSP22	1'	16	40	2.50	0.38	950	sandy sand damp	-	-	Ν
	CSP23	1'	15	46	3.07	0.15	460	sandy sand damp	-	-	Ν
	CSP24	1'	15	41	2.73	0.23	628	sandy sand damp	-	-	Ν
	CSP25	1'	16	41	2.56	0.28	717	sandy sand damp	-	-	Ν
	CSP26	1'	15	47	3.13	0.32	1002	sandy sand damp	-	-	Y
17-May	CSP27	1'	-	-	-	-	-	sandy sand damp	469.0	-	Ν
	CSP28	1'	-	-	-	-	-	sandy sand damp	516.0	-	Ν
	CSP29	1'	-	-	-	-	-	sandy sand damp	664.0	-	Ν
	CSP30	1'	-	-	-	-	-	sandy sand damp	320.8	*	Ν
	CSP31	1'	-	-	-	-	-	sandy sand damp	456	-	Ν
	CSP32	1'	-	-	-	-	-	sandy sand damp	548	-	Ν
	CSP33	1'	-	-	-	-	-	sandy sand damp	391.2	-	Ν
	CSP34	1'	-	-	-	-	-	sandy sand damp	512	-	Ν
	CSP35	1'	-	-	-	-	-	sandy sand damp	576	-	Ν
	CSP36	1'	-	-	-	-	-	sandy sand damp	307.6	-	Ν

	CSP37	1'	-	-	-	-	-	sandy sand damp	159.2	-	Ν
	CSP38	1'	-	-	-	-	-	sandy sand damp	129.2	-	Ν
	CSP39	1'	-	-	-	-	-	sandy sand damp	266.4	-	Ν
	CSP40	1'	-	-	-	-	-	sandy sand damp	236	*	Ν
	CSP41	1'	-	-	-	-	-	sandy sand damp	147.2	-	Ν
	CSP42	1'	-	-	-	-	-	sandy sand damp	226.8	-	Ν
	CSP43	1'	-	-	-	-	-	sandy sand damp	179.6	-	Ν
	CSP44	1'	-	-	-	-	-	sandy sand damp	242.8	-	Ν
	CSP45	1'	-	-	-	-	-	sandy sand damp	396.4	-	Ν
	CSP46	1'	-	-	-	-	-	sandy sand damp	272.8	-	Ν
	CSP47	1'	-	-	-	-	-	sandy sand damp	780	-	Y
	CSP48	1'	-	-	-	-	-	sandy sand damp	354.8	-	Ν
	CSP49	1'	-	-	-	-	-	sandy sand damp	696	-	Ν
	CSP50	1'	-	-	-	-	-	sandy sand damp	500	*	Ν
	CSP51	1'	-	-	-	-	-	sandy sand damp	432	-	Ν
	CSP52	1'	-	-	-	-	-	sandy sand damp	500	-	Ν
	CSP53	1'	-	-	-	-	-	sandy sand damp	904	-	Y
	CSP54	1'	-	-	-	-	-	sandy sand damp	984	-	Y
	CSP55	1'	-	-	-	-	-	sandy sand damp	828	-	Y
	CSP56	1'	-	-	-	-	-	sandy sand damp	792	-	Y
	CSP57	1'	-	-	-	-	-	sandy sand damp	592	-	Ν
	CSP58	1'	-	-	-	-	-	sandy sand damp	472	-	Ν
	CSP59	1'	-	-	-	-	-	sandy sand damp	600	-	Ν
	CSP60	1'	-	-	-	-	-	sandy sand damp	916	*	Y
	CSP61	1'	-	-	-	-	-	sandy sand damp	816	-	Y
	CSP62	1'	-	-	-	-	-	sandy sand damp	1044	-	Y
	*Stockpile	s in secti	on C w	ere reblende	ed with sec	tions B and	d F.				
							D STOCKPILES	5			
27-Apr	DSP1	1'	20	45	2.25	0.45	1012	sandy sand damp	-	-	Y
	DSP2	1'	19	49	2.58	0.37	954	sandy sand damp	-	-	Y
	DSP3	1'	17	48	2.82	0.52	1468	sandy sand damp	-	-	Y
	DSP4	1'	20	46	2.30	0.5	1150	sandy sand damp	-	-	Y
	DSP5	1'	17	46	2.71	0.52	1407	sandy sand damp	-	-	Y
	DSP6	1'	18	55	3.06	0.32	977	sandy sand damp	-	-	Y

	DSP7	1'	16	49	3.06	0.53	1623	sandy sand damp	-	-	Y
	DSP8	1'	19	49	2.58	0.17	438	sandy sand damp	-	-	Ν
	DSP9	1'	22	48	2.18	0.26	567	sandy sand damp	-	-	Ν
	DSP10	1'	16	50	3.13	0.24	750	sandy sand damp	-	163	Y
	DSP11	1'	17	49	2.88	0.25	720	sandy sand damp	-	-	Ν
	DSP12	1'	16	49	3.06	0.1	306	sandy sand damp	-	-	Ν
	DSP13	1'	16	44	2.75	0.13	357	sandy sand damp	-	-	Ν
	DSP14	1'	16	49	3.06	0.11	337	sandy sand damp	-	-	Ν
	DSP15	1'	19	45	2.37	0.4	947	sandy sand damp	-	-	Y
	DSP16	1'	16	48	3.00	0.18	540	sandy sand damp	-	-	Ν
28-Apr	DSP17	1'	17	52	3.06	0.07	214	sandy sand damp	-	-	Ν
	DSP18	1'	15	50	3.33	0.08	267	sandy sand damp	-	-	Ν
	DSP19	1'	16	48	3.00	0.17	510	sandy sand damp	-	-	Ν
	DSP20	1'	16	48	3.00	0.12	360	sandy sand damp	-	169	Ν
	DSP21	1'	22	48	2.18	0.12	262	sandy sand damp	-	-	Ν
	DSP22	1'	14	49	3.50	0.07	245	sandy sand damp	-	-	Ν
	DSP23	1'	19	47	2.47	0.1	247	sandy sand damp	-	-	Ν
	DSP24	1'	19	44	2.32	0.07	162	sandy sand damp	-	-	Ν
	DSP25	1'	22	45	2.05	0.13	266	sandy sand damp	-	-	Ν
	DSP26	1'	17	49	2.88	0.17	490	sandy sand damp	-	-	Ν
	DSP27	1'	16	48	3.00	0.34	1020	sandy sand damp	-	-	Y
	DSP28	1'	18	48	2.67	0.36	960	sandy sand damp	-	-	Y
	DSP29	1'	19	46	2.42	0.14	339	sandy sand damp	-	-	Ν
	DSP30	1'	19	50	2.63	0.16	421	sandy sand damp	-	346	Ν
	DSP31	1'	26	42	1.62	0.57	920	sandy sand damp	-	-	Y
	DSP32	1'	15	54	3.60	0.38	1368	sandy sand damp	-	-	Y
	DSP33	1'	15	45	3.00	0.16	480	sandy sand damp	-	-	Ν
	DSP34	1'	15	47	3.13	0.11	345	sandy sand damp	-	-	Ν
	DSP35	1'	15	54	3.60	0.18	648	sandy sand damp	-	-	Ν
	DSP36	1'	14	47	3.36	0.46	1544	sandy sand damp	-	-	Y
	DSP37	1'	22	49	2.23	0.21	468	sandy sand damp	-	-	Ν
	DSP38	1'	23	47	2.04	0.13	266	sandy sand damp	-	-	Ν
	DSP39	1'	16	47	2.94	0.15	440	sandy sand damp	-	-	Ν
	DSP40	1'	14	49	3.50	0.11	385	sandy sand damp	-	284	Ν

	DSP41	1'	16	46	2.88	0.11	316	sandy sand damp	-	-	Ν
	DSP42	1'	16	51	3.19	0.1	319	sandy sand damp	-	-	Ν
	DSP43	1'	15	48	3.20	0.07	224	sandy sand damp	-	-	Ν
	DSP44	1'	19	43	2.26	0.12	271	sandy sand damp	-	-	Ν
	DSP45	1'	21	48	2.29	0.08	183	sandy sand damp	-	-	Ν
	DSP46	1'	17	45	2.65	0.11	291	sandy sand damp	-	-	Ν
	DSP47	1'	20	47	2.35	0.1	235	sandy sand damp	-	-	Ν
	DSP48	1'	21	39	1.86	0.26	483	sandy sand damp	-	-	Ν
	DSP49	1'	23	42	1.83	0.15	274	sandy sand damp	-	-	Ν
	DSP50	1'	17	46	2.71	0.16	433	sandy sand damp	-	232	Ν
	DSP51	1'	17	49	2.88	0.13	375	sandy sand damp	-	-	Ν
	DSP52	1'	17	45	2.65	0.1	265	sandy sand damp	-	-	Ν
	DSP53	1'	14	46	3.29	0.08	263	sandy sand damp	-	-	Ν
	DSP54	1'	19	42	2.21	0.07	155	sandy sand damp	-	-	Ν
	DSP55	1'	16	45	2.81	0.07	197	sandy sand damp	-	381	Ν
	DSP56	1'	15	50	3.33	0.06	200	sandy sand damp	-	154	Ν
	DSP57	1'	13	48	3.69	0.07	258	sandy sand damp	-	155	Ν
	DSP58	1'	16	45	2.81	0.09	253	sandy sand damp	-	178	Ν
	DSP59	1'	14	47	3.36	0.09	302	sandy sand damp	-	145	Ν
	DSP60	1'	15	49	3.27	0.07	229	sandy sand damp	-	151	Ν
	DSP61	1'	19	47	2.47	0.03	74	sandy sand damp	-	156	Ν
	DSP62	1'	16	48	3.00	0.1	300	sandy sand damp	-	157	Ν
	DSP63	1'	17	47	2.76	0.08	221	sandy sand damp	-	139	Ν
	DSP64	1'	17	49	2.88	0.1	288	sandy sand damp	-	99.5	Ν
							E STOCKPILE	s		- 1 1	
16-May	ESP1	1'	-	-	-	-	-	sandy sand damp	-	-	Ν
-	ESP2	1'	-	-	-	-	-	sandy sand damp	-	-	Ν
	ESP3	1'	-	-	-	-	-	sandy sand damp	-	-	Ν
	ESP4	1'	-	-	-	-	-	sandy sand damp	-	-	Ν
	ESP5	1'	-	-	-	-	-	sandy sand damp	-	-	Ν
	ESP6	1'	-	-	-	-	-	sandy sand damp	-	-	N
	ESP7	1'	-	-	-	-	-	sandy sand damp	-	-	N
	ESP8	1'	-	-	-	-	-	sandy sand damp	-		Ν
	ESP9	1'	-	-	-	-	-	sandy sand damp	-		N

	ESP10	1'	-	-	-	-	-	sandy sand damp	-	1400	Y
							F STOCKPILES	S			
3-May	FSP1	1'	19	43	2.26	0.18	407	sandy sand damp	-	-	Ν
	FSP2	1'	15	45	3.00	0.23	690	sandy sand damp	-	-	Ν
	FSP3	1'	18	50	2.78	0.26	722	sandy sand damp	-	-	Ν
	FSP4	1'	17	48	2.82	0.33	931	sandy sand damp	-	-	Ν
	FSP5	1'	18	45	2.50	0.38	950	sandy sand damp	-	-	Ν
	FSP6	1'	18	44	2.44	0.38	929	sandy sand damp	-	-	Y
	FSP7	1'	18	49	2.72	0.3	816	sandy sand damp	-	-	Y
	FSP8	1'	16	44	2.75	0.21	577	sandy sand damp	-	-	Ν
	FSP9	1'	15	46	3.07	0.16	491	sandy sand damp	-	-	Ν
	FSP10	1'	24	42	1.75	0.22	385	sandy sand damp	-	*	Ν
	FSP11	1'	20	45	2.25	0.18	405	sandy sand damp	-	-	Ν
	FSP12	1'	21	46	2.19	0.38	832	sandy sand damp	-	-	Y
	FSP13	1'	17	46	2.71	0.35	947	sandy sand damp	-	-	Y
	FSP14	1'	19	45	2.37	0.17	403	sandy sand damp	-	-	Ν
	FSP15	1'	21	43	2.05	0.47	962	sandy sand damp	-	-	Y
	FSP16	1'	23	43	1.87	0.11	206	sandy sand damp	-	-	Ν
	FSP17	1'	20	44	2.20	0.15	330	sandy sand damp	-	-	Ν
	FSP18	1'	17	47	2.76	0.25	691	sandy sand damp	-	-	Ν
	FSP19	1'	19	46	2.42	0.09	218	sandy sand damp	-	-	Ν
	FSP20	1'	16	48	3.00	0.19	570	sandy sand damp	-	*	Ν
	FSP21	1'	19	41	2.16	0.18	388	sandy sand damp	-	-	Ν
	FSP22	1'	16	49	3.06	0.25	765	sandy sand damp	-	-	Y
	FSP23	1'	17	48	2.82	0.33	931	sandy sand damp	-	-	Y
	FSP24	1'	15	45	3.00	0.22	660	sandy sand damp	-	-	Ν
	FSP25	1'	21	51	2.43	0.08	194	sandy sand damp	-	-	Ν
	FSP26	1'	19	46	2.42	0.21	508	sandy sand damp	-	-	Ν
	FSP27	1'	15	47	3.13	0.12	376	sandy sand damp	-	-	Ν
	FSP28	1'	20	43	2.15	0.2	430	sandy sand damp	-	-	Ν
	FSP29	1'	15	49	3.27	0.25	816	sandy sand damp	-	-	Y
	FSP30	1'	14	50	3.57	0.23	821	sandy sand damp	-	*	Y
	FSP31	1'	19	47	2.47	0.39	964	sandy sand damp	-	-	Y
	FSP32	1'	22	49	2.23	0.15	334	sandy sand damp	-	-	Ν

	FSP33	1'	21	48	2.29	0.21	480	sandy sand damp	-	-	Ν
4-May	FSP34	1'	15	47	3.13	0.24	752	sandy sand damp	-	-	Y
	FSP35	1'	15	47	3.13	0.37	1159	sandy sand damp	-	-	Y
	FSP36	1'	17	48	2.82	0.4	1129	sandy sand damp	-	-	Y
	FSP37	1'	16	47	2.94	0.23	675	sandy sand damp	-	-	N
	FSP38	1'	18	45	2.50	0.08	200	sandy sand damp	-	-	Ν
	FSP39	1'	22	47	2.14	0.67	1431	sandy sand damp	-	-	Y
	FSP40	1'	15	49	3.27	0.07	229	sandy sand damp	-	*	Ν
	FSP41	1'	19	48	2.53	0.28	707	sandy sand damp	-	-	Ν
	*Stockpile	s in secti	on F w	ere reblende	ed with sec	tions B and	d C	5			
8-May	H1	1'	-	-	-	-	-	sandy sand damp	350	-	
	H2	1'	-	-	-	-	-	sandy sand damp	372.8	-	
	H3	1'	-	-	_	-	-	sandy sand damp	480	-	
	H4	1'	-	-	-	-	-	sandy sand damp	560	-	
	H5	1'	-	-	-	-	-	sandy sand damp	460	-	
	H6	1'	-	-	-	-	-	sandy sand damp	424	-	
	H7	1'	-	-	-	-	-	sandy sand damp	492	-	
	H8	1'	-	-	-	-	-	sandy sand damp	424	-	
	H9	1'	-	-	-	-	-	sandy sand damp	656	-	
	H10	1'	-	-	-	-	-	sandy sand damp	404	411	
	H11	1'	-	-	-	-	-	sandy sand damp	480	-	
	H12	1'	-	-	-	-	-	sandy sand damp	436	-	
	H13	1'	-	-	-	-	-	sandy sand damp	484	-	
	H14	1'	-	-	-	-	-	sandy sand damp	520	-	
	H15	1'	-	-	-	-	-	sandy sand damp	321.6	-	
	H16	1'	-	-	-	-	-	sandy sand damp	348.4	-	
	H17	1'	-	-	-	-	-	sandy sand damp	305.2	-	
	H18	1'	-	-	-	-	-	sandy sand damp	369.6	-	
	H19	1'	-	-	-	-	-	sandy sand damp	404	-	
	H20	1'	-	-	-	-	-	sandy sand damp	544	367	
	H21	1'	-	-	-	-	-	sandy sand damp	416	-	
	H22	1'	-	-	-	-	-	sandy sand damp	640	-	

	H23	1'	-	-	-	-	-	sandy sand damp	576	-	
	H24	1'	-	-	-	-	-	sandy sand damp	492	-	
	H25	1'	-	-	-	-	-	sandy sand damp	444	-	
	H26	1'	-	-	-	-	-	sandy sand damp	448	-	
	H27	1'	-	-	-	-	-	sandy sand damp	564	-	
	H28	1'	-	-	-	-	-	sandy sand damp	408	-	
	H29	1'	-	-	-	-	-	sandy sand damp	352.4	-	
	H30	1'	-	-	-	-	-	sandy sand damp	428	380	
	H31	1'	-	-	-	-	-	sandy sand damp	249.6	-	
	H32	1'	-	-	-	-	-	sandy sand damp	272.8	-	
	H33	1'	-	-	-	-	-	sandy sand damp	395.6	-	
	H34	1'	-	-	-	-	-	sandy sand damp	290.4	-	
	H35	1'	-	-	-	-	-	sandy sand damp	219.2	-	
	H36	1'	-	-	-	-	-	sandy sand damp	504	-	
	H37	1'	-	-	-	-	-	sandy sand damp	416	-	
	H38	1'	-	-	-	-	-	sandy sand damp	392.4	-	
	H39	1'	-	-	-	-	-	sandy sand damp	672	-	
	H40	1'	-	-	-	-	-	sandy sand damp	824	973	
	H41	1'	-	-	-	-	-	sandy sand damp	620	-	
	H42	1'	-	-	-	-	-	sandy sand damp	416	-	
	H43	1'	-	-	-	-	-	sandy sand damp	692	973	
	H44	1'	-	-	-	-	-	sandy sand damp	664	-	
	H45	1'	-	-	-	-	-	sandy sand damp	476	-	
	H46	1'	-	-	-	-	-	sandy sand damp	548	973	
						POV	VER LINE SAM	PLES			
15-Jun	PLS1	1'	-	-	-	-	-	sandy sand damp	4.4	-	Ν
	PLS2	2'	-	-	-	-	-	sandy sand damp	5.6	-	Ν
	PLS3	3'	-	-	-	-	-	sandy sand damp	4.8	-	Ν
	PLS4	4'	-	-	-	-	-	sandy sand damp	12	<4.99	Ν
	PLS5	1'	-	-	-	-	-	sandy sand damp	9.6	-	Ν
	PLS6	2'	-	-	-	-	-	sandy sand damp	8.4	-	Ν
	PLS7	3'	-	-	-	-	-	sandy sand damp	7.6	-	Ν
	PLS8	4'	-	-	-	-	-	sandy sand damp	8	8.39	Ν
	PLS9	1'	-	-	-	-	-	sandy sand damp	6.4	-	Ν

- 5.83 - - - - 6.98 - - - - - - - - - - - - - - - - - - -	N N N N N N N N
- - 6.98 - - - - <4.94	N N N N N N N
- - 6.98 - - - - <4.94	N N N N N N
- - 6.98 - - - <4.94	N N N N N
- 6.98 - - - - <4.94	N N N N
6.98 - - - <4.94	N N N
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- <4.94	N
<4.94	
	N
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	N
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-	Ν
12.4	N
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-	Ν
-	Ν
<4.98	Ν
-	Ν
-	Ν
-	Ν
10.8	Ν
-	Ν
-	Ν
-	Ν
<4.99	Ν
-	N
-	Ν
-	Ν
<4.95	Ν
-	Ν
-	N
	- 12.4 - - - - - - - - - - - - - - - - - - -

	MB3	1'	22	49	2.23	0.01	22	sandy sand damp	-	-	N
	MB4	1'	15	46	3.07	0.02	61	sandy sand damp	-	-	N
	MB5	1'	15	51	3.40	0.05	170	sandy sand damp	-	-	N
	MB6	1'	19	41	2.16	0.05	108	sandy sand damp	-	-	N
	MB7	1'	18	41	2.28	0.07	159	sandy sand damp	-	-	Ν
	MB8	1'	20	42	2.10	0.08	168	sandy sand damp	-	-	Ν
	MB9	1'	18	45	2.50	0.03	75	sandy sand damp	-	-	Ν
	MB10	1'	16	46	2.88	0.38	1092	sandy sand damp	-	64.7	Y
	MB11	1'	17	46	2.71	0.16	433	sandy sand damp	-	-	Ν
	MB12	1'	20	52	2.60	0.06	156	sandy sand damp	-	-	Ν
10-May	DMB2	1'	20	42	2.10	0.4	840	sandy sand damp	-	-	Ν
	DMB3	1'	21	42	2.00	0.28	560	sandy sand damp	-	-	Ν
	DMB4	1'	17	46	2.71	0.56	1515	sandy sand damp	-	-	Y
	DMB5	1'	17	50	2.94	0.27	794	sandy sand damp	-	-	Ν

## LOCATION: OWL BOBCAT/REDHILLS PIPELINE RELEASE SPILL AREA

DATE	Sample Pt.	DEPTH	SOIL	WATER	CF	AgNO <sub>3</sub>	CL-	SOIL LITHOLOGY	FIELD SCREENING HORIBA D-73	LAB RESULTS CL-	BLENDED Y / N
21-Jun	G1	1'	-	-	-	-	-	sandy sand damp	304.4	-	N
	G2	1'	-	-	-	-	-	sandy sand damp	68.8	-	N
	G3	1'	-	-	-	-	-	sandy sand damp	123.2	-	N
	G4	1'	-	-	-	-	-	sandy sand damp	104.4	-	N
	G5	1'	-	-	-	-	-	sandy sand damp	172.4	-	N
	G6	1'	-	-	-	-	-	sandy sand damp	145.6	-	N
	G7	1'	-	-	-	-	-	sandy sand damp	80.4	-	N
	G8	1'	-	-	-	-	-	sandy sand damp	75.6	-	N
	G9	1'	-	-	-	-	-	sandy sand damp	46.4	-	N
	G10	1'	-	-	-	-	-	sandy sand damp	56.4	54.5	N
	G11	1'	-	-	-	-	-	sandy sand damp	51.2	-	N
	G12	1'	-	-	-	-	-	sandy sand damp	79.6	-	N
	G13	1'	-	-	-	-	-	sandy sand damp	67.2	-	Ν
	G14	1'	-	-	-	-	-	sandy sand damp	58.4	-	Ν
	G15	1'	-	-	-	-	-	sandy sand damp	224.8	-	Ν

G16	1'	-	-	-	-	-	sandy sand damp	30.16	-	N
G17	1'	-	-	-	-	-	sandy sand damp	46.4	-	Ν
G18	1'	-	-	-	-	-	sandy sand damp	42	-	Ν
G19	1'	-	-	-	-	-	sandy sand damp	40.4	-	Ν
G20	1'	-	-	-	-	-	sandy sand damp	44.4	58.6	Ν
G21	1'	-	-	-	-	-	sandy sand damp	43.6	-	Ν
G22	1'	-	-	-	-	-	sandy sand damp	53.6	-	Ν
G23	1'	-	-	-	-	-	sandy sand damp	47.2	-	Ν
G24	1'	-	-	-	-	-	sandy sand damp	46	-	Ν
G25	1'	-	-	-	-	-	sandy sand damp	34.28	-	Ν
G26	1'	-	-	-	-	-	sandy sand damp	35	-	Ν
G27	1'	-	-	-	-	-	sandy sand damp	30	-	Ν
G28	1'	-	-	-	-	-	sandy sand damp	102.4	-	Ν
G29	1'	-	-	-	-	-	sandy sand damp	63.6	-	Ν
G30	1'	-	-	-	-	-	sandy sand damp	41.2	67.3	Ν
G31	1'	-	-	-	-	-	sandy sand damp	53.2	-	Ν
G32	1'	-	-	-	-	-	sandy sand damp	47.2	-	Ν
G33	1'	-	-	-	-	-	sandy sand damp	42	-	Ν
G34	1'	-	-	-	-	-	sandy sand damp	45.6	-	Ν
G35	1'	-	-	-	-	-	sandy sand damp	33.56	-	Ν
G36	1'	-	-	-	-	-	sandy sand damp	56.8	-	Ν
G37	1'	-	-	-	-	-	sandy sand damp	64.4	-	Ν
G38	1'	-	-	-	-	-	sandy sand damp	72.4	-	Ν
G39	1'	-	-	-	-	-	sandy sand damp	59.2	-	Ν
G40	1'	-	-	-	-	-	sandy sand damp	6.84	14.9	Ν
G41	1'	-	-	-	-	-	sandy sand damp	63.2	-	Ν
G42	1'	-	-	-	-	-	sandy sand damp	126.4	-	Ν
G43	1'	-	-	-	-	-	sandy sand damp	58.8	-	Ν
G44	1'	-	-	-	-	-	sandy sand damp	149.6	-	Ν
G45	1'	-	-	-	-	-	sandy sand damp	120.4	-	Ν
G46	1'	-	-	-	-	-	sandy sand damp	83.2	-	Ν
G47	1'	-	-	-	-	-	sandy sand damp	48	-	Ν
G48	1'	-	-	-	-	-	sandy sand damp	93.2	-	Ν
G49	1'	-	-	-	-	-	sandy sand damp	50.8	50.6	Ν



Project Id:Contact:James FoxProject Location:Jal, NM

### Certificate of Analysis Summary 552683

KJE Enviromental & Civil Engineering, Aubrey, TX

Project Name: Bobcat/Red Hills Pipeline Release



Date Received in Lab:Mon May-08-17 03:00 pmReport Date:18-MAY-17Project Manager:Holly Taylor

	Lab Id:	552683-0	01	552683-0	02	552683-0	03	552683-0	04	552683-0	05	552683-0	06
Analysis Requested	Field Id:	D64		D63		D62		D61		D60		D59	
Analysis Kequestea	Depth:	1 N/A		1 N/A		1 N/A		1 N/A		1 N/A		1 N/A	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-04-17	13:00	May-04-17	13:05	May-04-17	13:10	May-04-17	13:15	May-04-17	13:20	May-04-17	13:25
Inorganic Anions by EPA 300/300.1	Extracted:	May-17-17	08:00	May-17-17	08:00	May-17-17 (	08:00	May-17-17	08:00	May-17-17	08:00	May-17-17 (	08:00
	Analyzed:	May-17-17	12:52	May-17-17	13:15	May-17-17	3:22	May-17-17	13:30	May-17-17	13:37	May-17-17 1	4:00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		99.5	5.00	139	5.00	157	5.00	156	5.00	151	5.00	145	5.00

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

y ayls

Holly Taylor Project Manager



Project Id:Contact:James FoxProject Location:Jal, NM

### Certificate of Analysis Summary 552683

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name: Bobcat/Red Hills Pipeline Release** 

Date Received in Lab:Mon May-08-17 03:00 pmReport Date:18-MAY-17Project Manager:Holly Taylor

	Lab Id:	552683-0	07	552683-0	08	552683-0	09	552683-0	)10		
Analysis Requested	Field Id:	D58		D57		D56		D55			
Analysis Kequestea	Depth:	1 N/A		1 N/A		1 N/A		1 N/A			
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	May-04-17	13:30	May-04-17	13:35	May-04-17	13:40	May-04-17	13:45		
Inorganic Anions by EPA 300/300.1	Extracted:	May-17-17	08:00	May-17-17 (	08:00	May-17-17 (	08:00	May-17-17	08:00		
	Analyzed:	May-17-17	14:08	May-17-17	4:15	May-17-17	14:23	May-17-17	14:31		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		178	5.00	155	5.00	154	5.00	381	5.00		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

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Holly Taylor Project Manager

# Analytical Report 552683

### for KJE Enviromental & Civil Engineering

Project Manager: James Fox Bobcat/Red Hills Pipeline Release

#### 18-MAY-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



18-MAY-17



Project Manager: **James Fox KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **552683 Bobcat/Red Hills Pipeline Release** Project Address: Jal, NM

#### James Fox:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 552683. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 552683 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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### Sample Cross Reference 552683



#### KJE Enviromental & Civil Engineering, Aubrey, TX

Bobcat/Red Hills Pipeline Release

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
D64	S	05-04-17 13:00	- 1 N/A	552683-001
D63	S	05-04-17 13:05	- 1 N/A	552683-002
D62	S	05-04-17 13:10	- 1 N/A	552683-003
D61	S	05-04-17 13:15	- 1 N/A	552683-004
D60	S	05-04-17 13:20	- 1 N/A	552683-005
D59	S	05-04-17 13:25	- 1 N/A	552683-006
D58	S	05-04-17 13:30	- 1 N/A	552683-007
D57	S	05-04-17 13:35	- 1 N/A	552683-008
D56	S	05-04-17 13:40	- 1 N/A	552683-009
D55	S	05-04-17 13:45	- 1 N/A	552683-010

Final 1.000



### CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 552683 
 Report Date:
 18-MAY-17

 Date Received:
 05/08/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: De Lab Sample Id: 55			Matrix: Date Collect	Soil ted: 05.04.17 13.00		Date Received: Sample Depth:		
2	: Inorganic Anions by	y EPA 300/300.1				Prep Method:	E300P	
Tech: MC Analyst: MC			Date Prep:	05.17.17 08.00		% Moisture: Basis:	Wet Weight	
Seq Number: 301	17517							
Parameter		Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride	1	16887-00-6	99.5	5.00	mg/kg	05.17.17 12.5	2	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: D63 Lab Sample Id: 552683-002		Matrix: Date Collec	Soil ted: 05.04.17 13.05		Date Received:( Sample Depth: 1	)	
Analytical Method: Inorgan Tech: MGO Analyst: MGO	ic Anions by EPA 300/300.1	Date Prep:	05.17.17 08.00		Prep Method: I % Moisture: Basis:	E300P Wet Weight	
Seq Number: 3017517						C	
Parameter	Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride	16887-00-6	139	5.00	mg/kg	05.17.17 13.15	5	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>D62</b> d: 552683-003		Matrix: Date Collec	Soil eted: 05.04.17 13.10		Date Received: Sample Depth:	)	
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst:	MGO		Date Prep:	05.17.17 08.00			Wet Weight	
Seq Number:	3017517		_					
Parameter Chloride		Cas Number 16887-00-6	Result 157	RL 5.00	Units mg/kg	Analysis Dat 05.17.17 13.2	8	<b>Dil</b>





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>D61</b> : 552683-004		Matrix: Date Collec	Soil cted: 05.04.17 13.15		Date Received:05.08.17 15.00 Sample Depth: 1 N/A			
Tech: Analyst:	thod: Inorganic Anions MGO MGO	by EPA 300/300.1	Date Prep:	05.17.17 08.00		Prep Method: % Moisture: Basis:	E300P Wet Weight		
Seq Number: <b>Parameter</b>	3017517	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil	
Chloride		16887-00-6	156	5.00	mg/kg	05.17.17 13.3	30	1	





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: D60 Lab Sample Id: 552683-005		Matrix: Date Collec	Soil eted: 05.04.17 13.20		Date Received:( Sample Depth: 1	0	
Analytical Method: Inorgan Tech: MGO	ic Anions by EPA 300/300.1				Prep Method: H % Moisture:	E300P	
Tech: MGO Analyst: MGO		Date Prep:	05.17.17 08.00			Wet Weight	
Seq Number: 3017517							
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	151	5.00	mg/kg	05.17.17 13.37	7	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D59</b> Lab Sample Id: 552683-006		Matrix: Date Colle	Soil cted: 05.04.17 13.25		Date Received: Sample Depth:		0
Analytical Method: Inorganic Anion Tech: MGO Analyst: MGO Seq Number: 3017517	s by EPA 300/300.1	Date Prep:	05.17.17 08.00		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Parameter Chloride	<b>Cas Number</b> 16887-00-6	Result	<b>RL</b> 5.00	Units mg/kg	<b>Analysis Da</b> 05.17.17 14.0	8	<b>Dil</b>





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D58</b> Lab Sample Id: 552683-007		Matrix: Date Collec	Soil eted: 05.04.17 13.30		Date Received:0 Sample Depth: 1		)
Analytical Method: Inorganic A	nions by EPA 300/300.1				Prep Method: H	E300P	
Tech: MGO					% Moisture:		
Analyst: MGO		Date Prep:	05.17.17 08.00		Basis: V	Vet Weight	
Seq Number: 3017517							
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	178	5.00	mg/kg	05.17.17 14.08	3	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D57</b> Lab Sample Id: 552683-0	08	Matrix: Date Collec	Soil ted: 05.04.17 13.35		Date Received: Sample Depth:		)
	ganic Anions by EPA 300/300.1				Prep Method:	E300P	
Tech: MGO Analyst: MGO		Date Prep:	05.17.17 08.00		% Moisture: Basis:	Wet Weight	
Seq Number: 3017517							
Parameter	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride	16887-00-6	155	5.00	mg/kg	05.17.17 14.1	5	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D56</b> Lab Sample Id: 552683-009	9	Matrix: Date Collec	Soil ted: 05.04.17 13.40		Date Received:( Sample Depth: 1		)
Analytical Method: Inorga Tech: MGO Analyst: MGO	nic Anions by EPA 300/300.1	Date Prep:	05.17.17 08.00		Prep Method: H % Moisture: Basis: N	E300P Wet Weight	
Seq Number: 3017517		Bute Hep.				8	
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	154	5.00	mg/kg	05.17.17 14.23	3	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>D55</b> l: 552683-010		Matrix: Date Collec	Soil cted: 05.04.17 13.45		Date Received: Sample Depth:		0
Analytical Me Tech: Analyst:	thod: Inorganic Anions MGO MGO	by EPA 300/300.1	Date Prep:	05.17.17 08.00		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Seq Number: Parameter	3017517	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride		16887-00-6	381	5.00	mg/kg	05.17.17 14.3	31	1



## **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



QC Summary 552683

### KJE Enviromental & Civil Engineering

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1					Pr	ep Metho	od: E300	OP	
Seq Number:	3017517			Matrix:	Solid				Date Pre	ep: 05.1	7.17	
MB Sample Id:	724743-1-BLK		LCS San	nple Id:	724743-1-	BKS		LCSI	O Sample	Id: 7247	743-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1					Pr	ep Metho	od: E30	0P	
Seq Number:	3017517			Matrix:	Soil				Date Pre	ep: 05.1	7.17	
Parent Sample Id:	552656-001		MS Sar	nple Id:	552656-00	01 S		MSI	D Sample	Id: 552	656-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.24	250	285	112	327	128	90-110	14	20	mg/kg	05.17.17 14:46	Х

Analytical Method:	Inorganic Anions b	y EPA 300/	/300.1					Pr	ep Metho	d: E30	0P	
Seq Number:	3017517			Matrix:	Soil				Date Pre	ep: 05.1	7.17	
Parent Sample Id:	552683-001		MS Sar	nple Id:	552683-00	01 S		MSI	O Sample	Id: 552	583-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	99.5	250	362	105	363	105	90-110	0	20	mg/kg	05.17.17 12:59	

LABORATORIES Setting the Standard since 1990 Statford,Texas (281-240-4200) Dallas Texas (214-902-0300) Client / Reporting Information Company Name / Branch: KJE		CHAIN OF CUSTODY Page 1 of 1 San Antonio Texas (210-509-3334) Midland, Texas (432-704-5251) <u>WWW.xenco.com</u> <u>Project Information</u> <u>Project Information</u> <u>Project Information</u> <u>Project Information</u>
salanna Kjenvir	Phone No: on mental. Com	involve To: oilwaster logistics (ow L)
Project Contact: James Fox - 940 . 387-	5080-4	•
Sampiers's Name		Collegion
No. Field ID / Point of Collection	Sample	Collection Date Time
+ D64	11	1 S
2 063		1305
290 E		13/0
4 0 61		1315
5 060		1320
		13.30
450 B		1335
9 056		13 Ho
10 0 55	N	T A 54.81 T
Turnaround Time (Business days)		Data Deliverable Information
Same Day TAT X 5	S Day TAT	Level II Std QC
Next Day EMERGENCY	7 Day TAT	Level III Std QC+ Forms
2 Day EMERGENCY	Contract TAT	Level 3 (CLP Forms)
3 Day EMERGENCY		TRRP Checklist
TAT Starts Day received by Lab, if received by 5:00 pm	eived by 5:00 pm	
Relinquished by Sampler:	Date Time:	State Time: 600 Received By: Advise SAMPLES SHANGE POSSESSION, INCLUDING
	Date Time:	Received By:
Helinquished by:	Date Time:	re: Received By:

Page 19 of 20

Final 1.000



Client: KJE Enviromental & Civil Engineering

#### XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 05/08/2017 03:00:00 PM **Temperature Measuring device used :** Work Order #: 552683 Comments Sample Receipt Checklist 11.4 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A #6 Custody Seals intact on sample bottles? N/A #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes R9 #13 Container label(s) legible and intact? Yes #14 Sample matrix/ properties agree with Chain of Custody? Yes #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? N/A #21 VOC samples have zero headspace? N/A N/A

#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Marta Anaya

Marithza Anaya

Date: 05/09/2017

N/A

Checklist reviewed by:

Holly Taylor

Date: 05/09/2017



Project Id:Contact:James FoxProject Location:Jal, NM

### Certificate of Analysis Summary 553327

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name:** Bobcat/Red Hills Pipeline Release

Date Received in Lab:Wed May-17-17 08:19 amReport Date:19-MAY-17Project Manager:Holly Taylor

	Lab Id:	553327-0	01	553327-0	02	553327-0	03	553327-0	04	553327-0	05	553327-0	06
Analysis Requested	Field Id:	MB 10	MB 10			D 10	D 10			D 30		D 40	
Analysis Kequestea	Depth:	1 ft	1 ft		1 ft		1 ft		1 ft		1 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-16-17	15:00	May-16-17 15:05		May-16-17 15:10		May-16-17 15:15		May-16-17 15:20		May-16-17 15:25	
Inorganic Anions by EPA 300/300.1	Extracted:	May-18-17	19:50	May-18-17 19:50		May-19-17	11:47	May-19-17	1:47	May-19-17	11:47	May-19-17 1	11:47
SUB: TX104704215	Analyzed:	May-18-17	21:05	May-18-17	21:14	May-19-17	12:53	May-19-17	3:02	May-19-17	13:11	May-19-17 1	14:13
	Units/RL:	mg/kg	g/kg RL		RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		64.7	9.98	1400	9.88	163	9.77	169	9.75	346	9.71	284	9.60

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Holly Taylor Project Manager


# Certificate of Analysis Summary 553327

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name: Bobcat/Red Hills Pipeline Release** 

Date Received in Lab:Wed May-17-17 08:19 amReport Date:19-MAY-17Project Manager:Holly Taylor

	Lab Id:	553327-007			
Analysis Requested	Field Id:	D 50			
	Depth:	1 ft			
	Matrix:	SOIL			
	Sampled:	May-16-17 15:30			
Inorganic Anions by EPA 300/300.1	Extracted:	May-19-17 11:47			
SUB: TX104704215	Analyzed:	May-19-17 14:23			
	Units/RL:	mg/kg RL			
Chloride		232 9.62			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Holly Taylor Project Manager

# Analytical Report 553327

# for KJE Enviromental & Civil Engineering

Project Manager: James Fox Bobcat/Red Hills Pipeline Release

## 19-MAY-17

Collected By: Client





## 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



19-MAY-17



Project Manager: **James Fox KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): 553327 Bobcat/Red Hills Pipeline Release Project Address: Jal, NM

## James Fox:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 553327. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 553327 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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# Sample Cross Reference 553327



# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MB 10	S	05-16-17 15:00	- 1 ft	553327-001
E 10	S	05-16-17 15:05	- 1 ft	553327-002
D 10	S	05-16-17 15:10	- 1 ft	553327-003
D 20	S	05-16-17 15:15	- 1 ft	553327-004
D 30	S	05-16-17 15:20	- 1 ft	553327-005
D 40	S	05-16-17 15:25	- 1 ft	553327-006
D 50	S	05-16-17 15:30	- 1 ft	553327-007



# CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 553327 
 Report Date:
 19-MAY-17

 Date Received:
 05/17/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:         MB 10           Lab Sample Id:         553327-001	Matrix: Date Colle	Soil ected: 05.16.17 15.00		Date Received:05.17.17 08.19 Sample Depth: 1 ft				
Analytical Method: Inorganic Anions by EPA	A 300/300.1			Prep Method: E30	)0P			
Tech: DHE				% Moisture:				
Analyst: DHE	Date Prep	: 05.18.17 19.50		Basis: We	t Weight			
Seq Number: 3017719				SUB: TX10470421	15			
Parameter Cas	Number Result	RL	Units	Analysis Date	Flag	Dil		
Chloride 16887	-00-6 <b>64.7</b>	9.98	mg/kg	05.18.17 21.05		1		





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:         E 10           Lab Sample Id:         553327-002	Matrix: Date Collec	Matrix: Soil Date Collected: 05.16.17 15.05			Date Received:05.17.17 08.19 Sample Depth: 1 ft			
Analytical Method: Inorganic Anions by EPA 300/300. Tech: DHE	1			Prep Method: E3 % Moisture:	00P			
Analyst: DHE	Date Prep:	05.18.17 19.50			et Weight			
Seq Number: 3017719				SUB: TX1047042	15			
Parameter Cas Number	Result	RL	Units	Analysis Date	Flag	Dil		
Chloride 16887-00-6	1400	9.88	mg/kg	05.18.17 21.14		1		





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:         D 10           Lab Sample Id:         553327-003			Soil 05.16.17 15.10		te Received:05.1 mple Depth: 1 ft		
Analytical Method: Inorganic Anions by E	PA 300/300.1			Pre	ep Method: E30	0P	
Tech: DHE				%	Moisture:		
Analyst: DHE	Da	ate Prep:	05.19.17 11.47	Ba	sis: Wet	Weight	
Seq Number: 3017764				SU	JB: TX10470421	5	
Parameter Ca	s Number Resu	lt RL	τ	J <b>nits</b>	Analysis Date	Flag	Dil
Chloride 168	87-00-6	<b>163</b> 9.	77 m	ng/kg	05.19.17 12.53		1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>D 20</b> 1: 553327-004		Matrix: Date Collec	Soil cted: 05.16.17 15.15		Date Received:05. Sample Depth: 1 f		9
Analytical Me	thod: Inorganic Anions	by EPA 300/300.1				Prep Method: E30	)0P	
Tech:	DHE					% Moisture:		
Analyst:	DHE		Date Prep:	05.19.17 11.47		Basis: We	t Weight	
Seq Number:	3017764					SUB: TX1047042	15	
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	169	9.75	mg/kg	05.19.17 13.02		1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D 30</b> Lab Sample Id: 553327-005		Matrix: Date Collec	Soil eted: 05.16.17 15.20		Date Received:05.17.17 08.19 Sample Depth: 1 ft				
Analytical Method: Inorganic Anions b	oy EPA 300/300.1				Prep Method: E3	00P			
Tech: DHE					% Moisture:				
Analyst: DHE		Date Prep:	05.19.17 11.47		Basis: We	et Weight			
Seq Number: 3017764					SUB: TX1047042	15			
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil		
Chloride	16887-00-6	346	9.71	mg/kg	05.19.17 13.11		1		





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D 40</b> Lab Sample Id: 553327-006		Matrix: Date Collec	Soil cted: 05.16.17 15.25		Date Received:05.17.17 08.19 Sample Depth: 1 ft				
Analytical Method: Inorganic Anion	s by EPA 300/300.1				Prep Method: E30	00P			
Tech: DHE					% Moisture:				
Analyst: DHE		Date Prep:	05.19.17 11.47		Basis: We	t Weight			
Seq Number: 3017764					SUB: TX10470421	15			
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil		
Chloride	16887-00-6	284	9.60	mg/kg	05.19.17 14.13		1		





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>D 50</b> Lab Sample Id: 553327-007		Matrix: Date Collec	Soil cted: 05.16.17 15.30		Date Received:05.17.17 08.19 Sample Depth: 1 ft				
Analytical Method: Inorganic Anions	by EPA 300/300.1				Prep Method: E30	0P			
Tech: DHE					% Moisture:				
Analyst: DHE		Date Prep:	05.19.17 11.47		Basis: We	t Weight			
Seq Number: 3017764					SUB: TX10470421	15			
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil		
Chloride	16887-00-6	232	9.62	mg/kg	05.19.17 14.23		1		



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



<1.00

10.0

10.1

101

Chloride

# QC Summary 553327

## KJE Enviromental & Civil Engineering

Bobcat/Red Hills Pipeline Release

Analytical Method: Seq Number: MB Sample Id:	<b>Inorganic Anions b</b> 3017719 724873-1-BLK	oy EPA 300,		Matrix: nple Id:	Solid 724873-1	-BKS			ep Metho Date Pro D Sample	ep: 05.1		
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1.00	10.0	9.99	100	9.92	99	80-120	1	20	mg/kg	05.18.17 20:00	
Analytical Method:	Inorganic Anions b	y EPA 300	/300.1					Pr	ep Metho	od: E30	0P	
Seq Number:	3017764			Matrix:	Solid				Date Pre	ep: 05.1	9.17	
MB Sample Id:	724904-1-BLK		LCS Sat	nple Id:	724904-1	-BKS		LCS	D Sample	e Id: 7249	904-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag

Analytical Method:	Inorganic Anions b	organic Anions by EPA 300/300.1								Prep Method: E300P			
Seq Number:	3017719	Soil	Date Prep: 05.18.17										
Parent Sample Id:	553187-001		MS Sar	nple Id:	553187-00	01 S		MSI	O Sample	Id: 5531	187-001 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Chloride	771	100	860	89	857	86	80-120	0	20	mg/kg	05.18.17 20:28		

10.0

100 80-120

1

20

mg/kg

Analytical Method:	Inorganic Anions b	norganic Anions by EPA 300/300.1								Prep Method: SW9056P				
Seq Number:	3017764	Soil Date Prep: 05.19.17					9.17							
Parent Sample Id:	553317-001	553317-00	553317-001 S MSD Sample Id:				Id: 5533	553317-001 SD						
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag		
Chloride	19600	106	19300	0	19500	0	80-120	1	20	mg/kg	05.19.17 14:42	Х		

05.19.17 11:57

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Setting the Standard since 1990

# CHAIN OF CUSTODY

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any indexes or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms 10 No. Samplers's Name =matt Company Address: Relinquished by: 9 o G N Relinquished by Sampler: roject Contact: Relinquished by: ompany Name / Branch: 1 Stafford, Texas (281-240-4200) Dallas Texas (214-902-0300) TAT Starts Day received by Lab, if received by 5:00 pm **3 Day EMERGENCY** 2 Day EMERGENCY Next Day EMERGENCY Same Day TAT 040 D 20 D 10 D Client / Reporting Information D (1) 3 500 Moseley Rd, Cross Roads, TX 50 30 10 Turnaround Time ( Business days) 0 James a Kyenvironmentalicoun James Fox James Fox 0 KJ Environmental Field ID / Point of Collection 940-368-3535 Contract TAT 7 Day TAT SAMPLE CUSTODY MUST BE OCCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY
Date Time: Received By: JUN | Relinquished By: 5 Day TAT Phone No: Date Time: 5/(7)Date Time: Date Time: Sample Depth 1 -2 5 5/16 Project NameNumber Robcod / Redhills Midland, Texas (432-704-5251) San Antonio, Texas (210-509-3334) Collection PO Number: roject Location: 518 Date oice To: < OWL - oilfield Water Logistics Jal, NM Received By: 1530 1515 1510 1525 Level 3 (CLP Forms) 1520 1505 1500 Received By: TRRP Checklist Level III Std QC+ Forms Time Project Information Level II Std QC Smatrix < Data Deliverable Information www.xenco.com # of 4 HCI 5= VaOH/Zn Number of preserved bottles Acetate HNO3 Lipeline Release 2 Relinquished By: Custody Seal # TRRP Level IV Level IV (Full Data Pkg /raw data) H2SO4 UST / RG -411 NaOH NaHSO MEOH × NONE < Xenco Quote # Phoenix, Arizona (480-355-0900) < × Chlorides Preserved where applicable Date Time: Date Time: Analytical Information FED-EX / UPS: Tracking # Notes: Xenco Job # Received By: Received By: Onlice 100000 Cooler Temp. Field Comments W = Water S = Soil/Sed/Solid SW = Surface water DW = Drinking Water GW =Ground Water P = Product O = OII WW= Waste Water WI = Wipe OW =Ocean/Sea Water SL = Sludge A = Air Thermo. Corr. Factor Matrix Codes

Final 1.000



## **XENCO** Laboratories



## Inter Office Report- Sample Receipt Checklist

Sent To: Houston IOS #: 1043851

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient **Temperature Measuring device used :** 

Sent By:	Jessica Kramer	Date Sent:	05/17/2017 11:30 AM
Received By:	Maria Paula Guerra	Date Received:	05/18/2017 09:30 AM

## Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received with appropriate temperature?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 *Custody Seals Signed and dated for Containers/coolers	N/A	
#6 *IOS present?	Yes	
#7 Any missing/extra samples?	No	
#8 IOS agrees with sample label(s)/matrix?	Yes	
#9 Sample matrix/ properties agree with IOS?	Yes	
#10 Samples in proper container/ bottle?	Yes	
#11 Samples properly preserved?	Yes	
#12 Sample container(s) intact?	N/A	
#13 Sufficient sample amount for indicated test(s)?	Yes	
#14 All samples received within hold time?	Yes	

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

**Corrective Action Taken:** 

Contact:

**Nonconformance Documentation** 

Contacted by :

Date:

Date: 05/18/2017



## **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: KJE Enviromental & Civil Engineering	Acceptable Temperature F	Range: 0 - 6 degC
Date/ Time Received: 05/17/2017 08:19:00 AM	Air and Metal samples Acc	ceptable Range: Ambient
Work Order #: 553327	Temperature Measuring d	evice used: R8
Sample Recei	pt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seal present on shipping container/ cooler?	N/A	
#5 *Custody Seals intact on shipping container/ cooler?	N/A	
#6 Custody Seals intact on sample bottles?	N/A	
#7 *Custody Seals Signed and dated?	N/A	
#8 *Chain of Custody present?	Yes	
#9 Sample instructions complete on Chain of Custody?	Yes	
#10 Any missing/extra samples?	No	
#11 Chain of Custody signed when relinquished/ received?	Yes	
#12 Chain of Custody agrees with sample label(s)?	Yes	
#13 Container label(s) legible and intact?	Yes	
#14 Sample matrix/ properties agree with Chain of Custody?	Yes	
#15 Samples in proper container/ bottle?	Yes	
#16 Samples properly preserved?	Yes	
#17 Sample container(s) intact?	Yes	
#18 Sufficient sample amount for indicated test(s)?	Yes	
#19 All samples received within hold time?	Yes	
#20 Subcontract of sample(s)?	Yes	Houston
#21 VOC samples have zero headspace?	N/A	
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? I samples for the analysis of HEM or HEM-SGT which are verif analysts.		
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	.c+NaOH? N/A	

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

Date: 05/17/2017

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 05/17/2017



# Certificate of Analysis Summary 554471

KJE Enviromental & Civil Engineering, Aubrey, TX



Project Name: Bobcat/Red Hills Pipeline Release

Date Received in Lab:Thu Jun-01-17 03:00 pmReport Date:07-JUN-17Project Manager:Holly Taylor

	Lab Id:	554471-0	01	554471-0	02	554471-0	03	554471-0	04	554471-0	05	554471-0	06
Analysis Requested	Field Id:	ASP20	)	ASP30	)	ASP40		ASP41		ASP42		ASP43	
Analysis Kequestea	Depth:	1 ft		1 ft		1 ft		1 ft		1 ft		1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-31-17	May-31-17 10:00		May-31-17 12:00		14:00	Jun-01-17 0	9:00	Jun-01-17 (	9:05	Jun-01-17 09:10	
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-06-17 1	5:15	Jun-06-17 1	5:15	Jun-06-17 1	5:15	Jun-06-17 1	5:15	Jun-06-17 1	5:15	Jun-06-17 1	5:15
	Analyzed: Jun-06-1		5:53	Jun-06-17 1	6:16	Jun-06-17 1	6:24	Jun-06-17 1	6:31	Jun-06-17 1	6:39	Jun-06-17 1	7:02
Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		316	4.94	607	4.96	200	4.90	180	4.88	183	4.94	380	4.96

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

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Holly Taylor Project Manager



# Certificate of Analysis Summary 554471

KJE Enviromental & Civil Engineering, Aubrey, TX



Project Name: Bobcat/Red Hills Pipeline Release

Date Received in Lab:Thu Jun-01-17 03:00 pmReport Date:07-JUN-17Project Manager:Holly Taylor

	Lab Id:	554471-0	07	554471-0	08	554471-0	09	554471-0	10	554471-0	11	554471-0	12
Analysis Requested	Field Id:	ASP44		ASP45		ASP46		ASP47		ASP48		ASP49	
Analysis Kequestea	Depth:	1 ft											
	Matrix:	SOIL											
	Sampled:	Jun-01-17 (	9:15	Jun-01-17 1	0:00	Jun-01-17 1	0:15	Jun-01-17 1	0:30	Jun-01-17 1	2:00	Jun-01-17 1	3:00
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-06-17 1	5:15										
	Analyzed:	Jun-06-17 1	7:09	Jun-06-17 1	7:17	Jun-06-17 1	7:24	Jun-06-17 1	7:32	Jun-06-17 1	7:40	Jun-06-17 1	8:02
Units/RL		mg/kg	RL										
Chloride		176	4.95	388	5.00	202	4.90	163	4.88	322	4.99	195	4.94

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Holly Taylor Project Manager



# Certificate of Analysis Summary 554471

KJE Enviromental & Civil Engineering, Aubrey, TX



Project Name: Bobcat/Red Hills Pipeline Release

Date Received in Lab:Thu Jun-01-17 03:00 pmReport Date:07-JUN-17Project Manager:Holly Taylor

	Lab Id:	554471-013			
Analysis Requested	Field Id:	ASP50			
Analysis Kequesieu	Depth:	1 ft			
	Matrix:	SOIL			
	Sampled:	Jun-01-17 14:00			
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-06-17 15:15			
	Analyzed:	Jun-06-17 18:10			
	Units/RL:	mg/kg RL			
Chloride		192 4.98			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

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Holly Taylor Project Manager

# Analytical Report 554471

# for KJE Enviromental & Civil Engineering

Project Manager: James Fox Bobcat/Red Hills Pipeline Release

## 07-JUN-17

Collected By: Client





## 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



07-JUN-17



Project Manager: **James Fox KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **554471 Bobcat/Red Hills Pipeline Release** Project Address: Jal, NM

## James Fox:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 554471. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 554471 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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# Sample Cross Reference 554471



# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
ASP20	S	05-31-17 10:00	- 1 ft	554471-001
ASP30	S	05-31-17 12:00	- 1 ft	554471-002
ASP40	S	05-31-17 14:00	- 1 ft	554471-003
ASP41	S	06-01-17 09:00	- 1 ft	554471-004
ASP42	S	06-01-17 09:05	- 1 ft	554471-005
ASP43	S	06-01-17 09:10	- 1 ft	554471-006
ASP44	S	06-01-17 09:15	- 1 ft	554471-007
ASP45	S	06-01-17 10:00	- 1 ft	554471-008
ASP46	S	06-01-17 10:15	- 1 ft	554471-009
ASP47	S	06-01-17 10:30	- 1 ft	554471-010
ASP48	S	06-01-17 12:00	- 1 ft	554471-011
ASP49	S	06-01-17 13:00	- 1 ft	554471-012
ASP50	S	06-01-17 14:00	- 1 ft	554471-013



# CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 554471 
 Report Date:
 07-JUN-17

 Date Received:
 06/01/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>ASP20</b> d: 554471-001		Matrix: Date Collec	Soil cted: 05.31.17 10.00		Date Received: Sample Depth:		0
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst: Seq Number:	MGO 3019052		Date Prep:	06.06.17 15.15			Wet Weight	
Parameter		Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride		16887-00-6	316	4.94	mg/kg	06.06.17 15.5	3	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>ASP30</b> d: 554471-002		Matrix: Date Collec	Soil cted: 05.31.17 12.00		Date Received: Sample Depth:		0
Analytical Me Tech: Analyst:	ethod: Inorganic Anions MGO MGO	by EPA 300/300.1	Date Prep:	06.06.17 15.15		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Seq Number:	3019052	Cae Nambar	D14	D.	<b>T</b> T <b>1</b> /			<b>D</b> .1
Parameter Chloride		Cas Number 16887-00-6	Result 607	<b>RL</b> 4.96	Units mg/kg	Analysis Dat 06.06.17 16.1	8	<b>Dil</b>





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:ASP40Lab Sample Id:554471-003			Matrix: Date Collec	Soil cted: 05.31.17 14.00	Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method:	E300P	
Analyst: Seq Number:	MGO 3019052		Date Prep:	06.06.17 15.15			Wet Weight	
Parameter		Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride		16887-00-6	200	4.90	mg/kg	06.06.17 16.2	4	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:ASP41Lab Sample Id:554471-004			Matrix: Date Collec	Soil cted: 06.01.17 09.00	Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst: Seg Number:	MGO 3019052		Date Prep:	06.06.17 15.15		Basis:	Wet Weight	
Parameter	/	Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride		16887-00-6	180	4.88	mg/kg	06.06.17 16.3	1	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: ASP42 Lab Sample Id: 554471-(	Matrix: Date Collec	Soil ted: 06.01.17 09.05	Date Received:06.01.17 15.00 Sample Depth: 1 ft				
Tech: MGO	ganic Anions by EPA 300/300.1		06 06 17 15 15		Prep Method: H % Moisture: Basis: V	E300P Wet Weight	
Analyst: MGO Seq Number: 3019052		Date Prep:	06.06.17 15.15		Dasis:	wet weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	183	4.94	mg/kg	06.06.17 16.39	)	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:ASP43Lab Sample Id:554471-006			Matrix: Date Collec	Matrix: Soil Date Collected: 06.01.17 09.10		Date Received:06.01.17 15.00 Sample Depth: 1 ft		
2	hod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst:	MGO 3019052		Date Prep:	06.06.17 15.15			Wet Weight	
Parameter	5017032	Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride		16887-00-6	380	4.96	mg/kg	06.06.17 17.0	2	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: ASP44 Lab Sample Id: 554471-007	Matrix: Date Collec	Matrix: Soil Date Collected: 06.01.17 09.15		Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Analytical Method: Inorganic A Tech: MGO	Anions by EPA 300/300.1				Prep Method: E % Moisture:		
Analyst: MGO Seq Number: 3019052		Date Prep:	06.06.17 15.15		Basis: V	Vet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	176	4.95	mg/kg	06.06.17 17.09		1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:ASP45Lab Sample Id:554471-008			Matrix: Date Collec	Soil ted: 06.01.17 10.00	Date Received:06.01.17 15.00 Sample Depth: 1 ft			
2	od: Inorganic Anions I MGO	by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
	MGO 3019052		Date Prep:	06.06.17 15.15			Wet Weight	
Parameter		Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride		16887-00-6	388	5.00	mg/kg	06.06.17 17.1	7	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:ASP46Lab Sample Id:554471-009			Matrix: Date Collec	Soil cted: 06.01.17 10.15	Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method:	E300P	
Analyst:	MGO		Date Prep:	06.06.17 15.15		Basis:	Wet Weight	
Seq Number: Parameter	3019052	Cas Number	Result	DI	<b>T</b> T - <b>1</b>			
Chloride		16887-00-6	202	<b>RL</b> 4.90	Units mg/kg	Analysis Dat 06.06.17 17.2	8	<b>Dil</b>





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: ASP47 Lab Sample Id: 554471-010	Matrix: Date Collec	Matrix: Soil Date Collected: 06.01.17 10.30		Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Analytical Method: Inorgani Tech: MGO	c Anions by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst: MGO		Date Prep:	06.06.17 15.15		Basis:	Wet Weight	
Seq Number: 3019052							
Parameter	Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride	16887-00-6	163	4.88	mg/kg	06.06.17 17.3	2	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: ASP48 Lab Sample Id: 554471-011	Matrix: Date Collec	Matrix: Soil Date Collected: 06.01.17 12.00		Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Analytical Method: Inorganic Anions Tech: MGO	s by EPA 300/300.1				Prep Method: 1 % Moisture:		
Analyst: MGO Seq Number: 3019052		Date Prep:	06.06.17 15.15		Basis:	Wet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride	16887-00-6	322	4.99	mg/kg	06.06.17 17.4	0	1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:ASP49Lab Sample Id:554471-012			Matrix: Date Collec	Soil cted: 06.01.17 13.00	Date Received:06.01.17 15.00 Sample Depth: 1 ft			
Tech: Analyst:	ethod: Inorganic Anions MGO MGO	by EPA 300/300.1	Date Prep:	06.06.17 15.15		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Seq Number: Parameter	3019052	Cas Number	Result	RL	Units	Analysis Da	te Flag	Dil
Chloride		16887-00-6	195	4.94	mg/kg	06.06.17 18.0	8	1




### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: ASP50 Lab Sample Id: 554471-013		Matrix: Date Collec	Soil cted: 06.01.17 14.00		Date Received: Sample Depth:		0
Analytical Method: Inorganic A Tech: MGO Analyst: MGO	nions by EPA 300/300.1	Date Prep:	06.06.17 15.15		Prep Method: 1 % Moisture: Basis:	E300P Wet Weight	
Seq Number: 3019052							
Parameter	Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride	16887-00-6	192	4.98	mg/kg	06.06.17 18.1	0	1



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



# QC Summary 554471

### KJE Enviromental & Civil Engineering

Analytical Method:	Inorganic Anions b	y EPA 300	/300.1				Prep Method: E300P					
Seq Number:	3019052 Matrix: Solid Date									ep: 06.0	6.17	
MB Sample Id:	725682-1-BLK	582-1-BLKLCS Sample Id: 725682-1-BKSLCSD Sample Id: 725682-1-BSD										
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	248	99	90-110	1	20	mg/kg	06.06.17 13:53	

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1	Pr	ep Metho	od: E300	OP					
Seq Number:	3019052			Matrix:	Soil		Date Prep: 06.06.17					
Parent Sample Id:	554471-001	nple Id:	554471-00	471-001 S MSD Sample Id: 554471-001 SD					471-001 SD			
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	316	247	572	104	563	100	90-110	2	20	mg/kg	06.06.17 16:01	

Analytical Method:	Inorganic Anions b	horganic Anions by EPA 300/300.1 Prep Method:												
Seq Number:	3019052			Soil	Date Prep: 06.06.17									
Parent Sample Id:	554471-011	554471-01	11 S	S MSD Sample Id: 554471-011 SD										
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag		
Chloride	322	250	565	97	565	97	90-110	0	20	mg/kg	06.06.17 17:47			

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# CHAIN OF CUSTODY

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Relinquished by:     Date Time:     Received By:     4       5     Custody Seal #     Preserved where applicable     On ice       Notice: Notice: Standulue at the normanal and radionalization at a structure     5     Custody Seal #	Date Time: 2 Corrected Temp:	-		Ten DD				Santon S											Field Comments	A = Air	O = OII W/W= Waste Water	OW =Ocean/Sea Water	P = Product SW = Surface water SI = Slutze	S = Soll/Sed/Solid GW =Ground Water DW = Drinking Water	W = Water	Analytical Information Matrix Codes	Xanco Job & DOULT	

Final 1.000

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Notice: Notice: Signature of this document and refinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only tak the cost of samples and shell not assume any responsibility for any will be enforced unless previously negotiated under a fully executed client contract. Samplers's Name 5 No. SOU Moseles Road, Cross Roads, TX Relinquished by: 9 1 Project Contact: Relinquished by Sampler: œ 6 сл w mail: Company Address: Company Name / Branch: Relinquished by: tanner@ Ksenuronmental . com 2 Day EMERGENCY Next Day EMERGENCY 3 Day EMERGENCY Dallas Texas (214-902-0300) TAT Starts Day received by Lab, if received by 5:00 pm Same Day TAT Client / Reporting Information ASPUS ASP50 ASPUG Turnaround Time (Business days) TANNER TERANS 940-368-3 Julipo Number Field ID / Point of Collection ICJE Frands K 5 Day TAT Contract TAT 7 Day TAT SAMPLE CUSTODY MUST BE OOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY Phone No: Date Time: Date Time: Sample -. Depth Collection 40 Project Namenumber Bob cat / Redhills PipBlin Release Project Location: Midland, Texas (432-704-5251) San Antonio, Texas (210-509-3334) nvoice To: Date 1400 0021 Received By: 1300 Received By: TRRP Checklist Level 3 (CLP Forms) Level III Std QC+ Forms Time Owil - Oil Field Logistius Level II Std QC Project Information Jul, NM 4 5 Matrix Data Deliverable Information www.xenco.com # of bottles -HCI NaOH/Zn Number of preserved bottles Acetate HNO3 Custody Seal # Relinquished By: TRRP Level IV Level IV (Full Data Pkg /raw data) UST / RG -411 12504 VaOH VaHSO4 NEOH 4 × NONE Chlorides Phoenix, Arizona-(480-355-0900) Xenco Quote a 4 × Preserved where applicable Date Time: Date Time: Analytical Information FED-EX / UPS: Track Notes: Receive Xenco Job # Received Onvice Temp: 0.3 CF:(0-6: -0.2°C) Corrected Temp: 1 (6-23: +0.2°C) Cooler Temp. Thermo, Corr. Factor C Field Comments GW =Ground Water DW = Drinking Water P = Product Wi = Wipe O = Oil WW= Waste Water SW = Surface water W = Water S = Soil/Sed/Solid OW =Ocean/Sea Water SL = Sludge A = Air Ģ Matrix Codes IR ID:R-8

Final 1.000



# **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: KJE Enviromental & Civil Engineering	Acceptable Temperature Range: 0 - 6 degC						
Date/ Time Received: 06/01/2017 03:00:00 PM	Air and Metal samples Acceptable Range: Ambient						
Work Order #: 554471	Temperature Measuring device used : R8						
Sample Recei	ot Checklist Comments						
#1 *Temperature of cooler(s)?	2.1						
#2 *Shipping container in good condition?	Yes						
#3 *Samples received on ice?	Yes						
#4 *Custody Seal present on shipping container/ cooler?	N/A						
#5 *Custody Seals intact on shipping container/ cooler?	N/A						
#6 Custody Seals intact on sample bottles?	N/A						
#7 *Custody Seals Signed and dated?	N/A						
#8 *Chain of Custody present?	Yes						
#9 Sample instructions complete on Chain of Custody?	Yes						
#10 Any missing/extra samples?	No						
#11 Chain of Custody signed when relinquished/ received?	Yes						
#12 Chain of Custody agrees with sample label(s)?	Yes						
#13 Container label(s) legible and intact?	Yes						
#14 Sample matrix/ properties agree with Chain of Custody?	Yes						
#15 Samples in proper container/ bottle?	Yes						
#16 Samples properly preserved?	Yes						
#17 Sample container(s) intact?	Yes						
#18 Sufficient sample amount for indicated test(s)?	Yes						
#19 All samples received within hold time?	Yes						
#20 Subcontract of sample(s)?	N/A						
#21 VOC samples have zero headspace?	N/A						

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

Date: 06/02/2017

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 06/05/2017



Project Id:Contact:James FoxProject Location:Jal, NM

# Certificate of Analysis Summary 554912

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name:** Bobcat/Red Hills Pipeline Release

Date Received in Lab:Thu Jun-08-17 02:45 pmReport Date:12-JUN-17Project Manager:Holly Taylor

	Lab Id:	554912-0	01	554912-0	02	554912-0	03		
Analysis Requested	Field Id:	B10		B20		B30			
Analysis Kequestea	Depth:	1 ft		1 ft		1 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Jun-08-17 1	3:00	Jun-08-17 1	3:00	Jun-08-17 1	3:00		
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-09-17 1	4:42	Jun-09-17 1	4:42	Jun-09-17 1	4:42		
	Analyzed:	Jun-09-17 1	9:56	Jun-09-17 2	0:03	Jun-09-17 2	0:26		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		296	4.93	127	4.89	266	4.96		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Holly Taylor Project Manager

# Analytical Report 554912

# for KJE Enviromental & Civil Engineering

Project Manager: James Fox Bobcat/Red Hills Pipeline Release

#### 12-JUN-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



12-JUN-17



Project Manager: **James Fox KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **554912 Bobcat/Red Hills Pipeline Release** Project Address: Jal, NM

#### James Fox:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 554912. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 554912 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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# Sample Cross Reference 554912



## KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
B10	S	06-08-17 13:00	- 1 ft	554912-001
B20	S	06-08-17 13:00	- 1 ft	554912-002
B30	S	06-08-17 13:00	- 1 ft	554912-003



## CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 554912 
 Report Date:
 12-JUN-17

 Date Received:
 06/08/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>B</b> 1 Lab Sample Id: 55			Matrix: Date Collect	Soil ed: 06.08.17 13.00		Date Received: Sample Depth:	06.08.17 14.45 1 ft	
Analytical Method Tech: MC	l: Inorganic Anions b GO	y EPA 300/300.1				Prep Method: % Moisture:	E300P	
Analyst: MC	GO		Date Prep:	06.09.17 14.42		Basis:	Wet Weight	
Seq Number: 301	19449							
Parameter		Cas Number	Result	RL	Units	Analysis Da	te Flag	Dil
Chloride		16887-00-6	296	4.93	mg/kg	06.09.17 19.5	56	1





### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id:	<b>B20</b> 554912-002		Matrix: Date Collec	Soil cted: 06.08.17 13.00		Date Received:06 Sample Depth: 1		5
5	hod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: E3 % Moisture:	00P	
	MGO		Date Prep:	06.09.17 14.42			et Weight	
Seq Number:	3019449							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	127	4.89	mg/kg	06.09.17 20.03		1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>B30</b> d: 554912-003		Matrix: Date Collec	Soil cted: 06.08.17 13.00		Date Received:0 Sample Depth: 1		5
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: E % Moisture:	300P	
Analyst:	MGO		Date Prep:	06.09.17 14.42			/et Weight	
Seq Number: Parameter	3017447	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	266	4.96	mg/kg	06.09.17 20.26		1



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



# QC Summary 554912

### KJE Enviromental & Civil Engineering

Analytical Method:	Inorganic Anions b	y EPA 300	/300.1	Pr	ep Metho	d: E30	OP					
Seq Number:	3019449			Matrix:	Solid	9.17						
MB Sample Id:	725871-1-BLK		LCS Sar	nple Id:	725871-1	371-1-BSD						
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	258	103	256	102	90-110	1	20	mg/kg	06.09.17 17:39	

Analytical Method:	Inorganic Anions b	norganic Anions by EPA 300/300.1 Prep Method:											
Seq Number:	3019449			Matrix:	Soil			9.17					
Parent Sample Id:	554810-031		MS Sar	nple Id:	554810-03	31 S		MS	D Sample	Id: 5548	310-031 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Chloride	38.7	248	298	105	297	104	90-110	0	20	mg/kg	06.09.17 19:41		

Analytical Method:	Inorganic Anions b	horganic Anions by EPA 300/300.1 Prep Method:											
Seq Number:	3019449			Matrix:	Soil				Date Pre	ep: 06.1	2.17		
Parent Sample Id:	554810-018		MS Sar	nple Id:	554810-0	18 S		MSI	O Sample	Id: 5548	810-018 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Chloride	28.9	244	277	102	271	99	90-110	2	20	mg/kg	06.12.17 13:32		

	-	-		
	F	-		
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	RAT	Z		
	DRI	2		
	(1) (1)	L		

# CHAIN OF CUSTODY

4 2		Relinquished by:	telinquish	TATS	3 Day	2 Day	Next	Same		10	9	œ	7	σ	σ	4	ω	N	-	NO.		Samplers's Name	Project Contact: J. Fox	Jame	500 M	Company Name / Branch:	Clien		Dallas Te	Stafford,
Kelinquished by:		S. Fox	Relinquished by Sampler:	itarts Day received by	3 Day EMERGENCY	2 Day EMERGENCY	Next Day EMERGENCY	Same Day TAT	Turnaround Time ( Business days)								330	\$ 20	1510	Field ID / Point of Collection	r	me JAIMES	"J. Fax	james & Kjenviranmental.com	seley Rol	0	Client / Reporting Information		Dallas Texas (214-902-0300)	Stafford, Texas (281-240-4200)
			SAMPLE CUSTOD	TAT Starts Day received by Lab, if received by 5:00 pm		Contract TAT	7 Day TAT	5 Day TAT	L	and many from a start										of Collection		FOX	940-368-	rental . co m	, Ciell Roads, TX	Environmentel	-			
Date Time:		60	Date Time:	00 pm				-	41100 - 185								13	11	11 6	Sample Depth	Co		55.55	P		Pro		記した。	Mic	Sa
Received By:	Hecely 3	1445 1 Macceived by:	Date TIME: Become below EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER D		Ū				のないというないので				-	-			+		18 1300	Date Time	Collection		PO Number:	Phillip Scadure	Jal, NM	킕	Pr	朝鮮語の読書	Midland, Texas (432-704-5251)	San Antonio, Texas (210-509-3334)
ed By:	ed By	No. Com	EACH TIME SAM		TRRP Checklist	Level 3 (CLP Forms)	Level III Std QC+ Forms	Level II Std QC	Data De					_	_		+	1 1	I S	# of Matrix bottles				1	2	Bobert /k	Project Information		32-704-5251) <u>www.x</u> i	IS (210-509-333
		U18/11	PLES CHANGE PO			ms) [	Forms [		Data Deliverable Information											HCI	Number			OWL		shills	A liter of the literature		251) www.xenco.com	4)
Custody Seal #	Relinquished By:	Relinquished By: 2	SSESSION, INCLU			UST / RG -411	TRRP Level IV	Level IV (F	on			_							-	HNO3 H2SO4 NaOH NaHSO4	Number of preserved bottles					ipelino P	1			
al #	id By:	d By:	IDING COURIER D			411	A IV	Level IV (Full Data Pkg /raw data)								-	44	- 7		NONE Chlu		0.				Celacite			Xenc	Pho
Preserved w	Date Time:	Date Time:	ELIVERY					v data)												Chi			5				Analy		Xenco Quote #	Phoenix, Arizona (480-355-0900)
Preserved where applicable	ime:	ime:		FED-EX / I					Notes:					-													Analytical Information			480-355-0900)
7	Received	Receiver		FED-EX / UPS: Traci					14													_	_				5	-	Xenco Job #	
On Cooler	Corrected Lemp.	(6-23: +0.2°C)	CF:(U-6: -U.2	lemp: + +	- 11													+										0	SP	
Cooler Temp. T	emp.	0.2°C)	()	5	0															Field	Þ	0	×0	SUST	D D D D	n z	A	7112	an	
Meininguissed by:     Date Time:     Received By:     Custody Seal #     Preserved where applicable     On Ide     Cooler Temp.     Thermo. Corr. Factor       5     5	セナ			יהי.ח-ס	מ-מירו מו				「「「「「「「」」										Contraction Contraction		WW= Waste Water A = Air	II0 = 0	OW =Ocean/Sea Water WI = Wipe	P = Product SW = Surface water SL = Sludge	GW =Ground Water DW = Drinking Water	W = Water	Matrix Codes	ſ		

Final 1.000



#### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient						
Temperature Measuring device used : r8						
ot Checklist Comments						
4.4						
Yes						
Yes						
N/A						
N/A						
N/A						
N/A						
Yes						
Yes						
No						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
Yes						
N/A						
N/A						

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by: Marta Anaya

Marithza Anaya

Date: 06/08/2017

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 06/08/2017



Project Id:Contact:Tanner EvansProject Location:Jal, NM

## Certificate of Analysis Summary 555513

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name: Bobcat/Red Hills Pipeline Release** 

Date Received in Lab:Thu Jun-15-17 03:00 pmReport Date:22-JUN-17Project Manager:Holly Taylor

	Lab Id:	555513-0	01	555513-0	02	555513-0	03	555513-0	04	555513-0	05	555513-0	06				
Analysis Requested	Field Id:	PLS4		PLS8		PLS12		PLS16		PLS16		PLS16		PLS20		PLS24	
Anaiysis Kequesieu	Depth:	4 ft		4 ft		4 ft		4 ft		4 ft		4 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jun-14-17 1	2:00	Jun-14-17 1	2:15	Jun-14-17 1	2:30	Jun-14-17 1	2:45	Jun-14-17 1	3:00	Jun-14-17 1	3:15				
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-21-17 1	5:30	Jun-21-17 15:30		Jun-21-17 1	5:30										
	Analyzed:	Jun-21-17 1	5:35	Jun-21-17 1	5:57	Jun-21-17 1	6:05	Jun-21-17 1	6:13	Jun-21-17 1	6:20	Jun-21-17 1	6:43				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		<4.99	4.99	8.39	4.94	5.83	4.95	6.98	4.91	<4.94	4.94	12.4	4.96				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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y ayls

Holly Taylor Project Manager



Project Id:Contact:Tanner EvansProject Location:Jal, NM

## Certificate of Analysis Summary 555513

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name:** Bobcat/Red Hills Pipeline Release

Date Received in Lab:Thu Jun-15-17 03:00 pmReport Date:22-JUN-17Project Manager:Holly Taylor

	Lab Id:	555513-0	07	555513-0	08	555513-0	09	555513-0	10		
Analysis Requested	Field Id:	PLS28		PLS32		PLS36		PLS40			
Analysis Kequestea	Depth:	4 ft		4 ft		4 ft		4 ft			
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Jun-14-17 1	3:30	Jun-14-17 1	3:45	Jun-14-17 1	4:00	Jun-14-17 1	4:15		
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-21-17 1	5:30								
	Analyzed:	Jun-21-17 1	6:51	Jun-21-17 1	6:58	Jun-21-17 1	7:06	Jun-21-17 1	7:13		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		<4.98	4.98	10.8	4.94	<4.99	4.99	<4.95	4.95		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

y and

Holly Taylor Project Manager

# Analytical Report 555513

# for KJE Enviromental & Civil Engineering

Project Manager: Tanner Evans Bobcat/Red Hills Pipeline Release

#### 22-JUN-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



22-JUN-17



Project Manager: **Tanner Evans KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **555513 Bobcat/Red Hills Pipeline Release** Project Address: Jal, NM

#### Tanner Evans:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 555513. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 555513 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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# Sample Cross Reference 555513



### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PLS4	S	06-14-17 12:00	- 4 ft	555513-001
PLS8	S	06-14-17 12:15	- 4 ft	555513-002
PLS12	S	06-14-17 12:30	- 4 ft	555513-003
PLS16	S	06-14-17 12:45	- 4 ft	555513-004
PLS20	S	06-14-17 13:00	- 4 ft	555513-005
PLS24	S	06-14-17 13:15	- 4 ft	555513-006
PLS28	S	06-14-17 13:30	- 4 ft	555513-007
PLS32	S	06-14-17 13:45	- 4 ft	555513-008
PLS36	S	06-14-17 14:00	- 4 ft	555513-009
PLS40	S	06-14-17 14:15	- 4 ft	555513-010



## CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 555513 
 Report Date:
 22-JUN-17

 Date Received:
 06/15/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id:	Sample Id: <b>PLS4</b> Lab Sample Id: 555513-001 Analytical Method: Inorganic Anions by EPA 300/300			Soil cted: 06.14.17 12.00	Date Received:06.15.17 15.00 Sample Depth: 4 ft				
2	hod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: E3 % Moisture:	00P		
,	MGO 3020299		Date Prep:	06.21.17 15.30		Basis: We	et Weight		
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride		16887-00-6	<4.99	4.99	mg/kg	06.21.17 15.35	U	1	





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	Lab Sample Id: 555513-002			Soil cted: 06.14.17 12.15	Date Received:06.15.17 15.00 Sample Depth:4 ft			
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method:	E300P	
Analyst:	MGO 3020299		Date Prep:	06.21.17 15.30			Wet Weight	
Seq Number: Parameter	3020277	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride		16887-00-6	8.39	4.94	mg/kg	06.21.17 15.5	7	1





### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>PLS12</b> d: 555513-003		Matrix: Date Collec	Soil cted: 06.14.17 12.30	Date Received:06.15.174.17 12.30Sample Depth: 4 ft			0
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst:	MGO 3020299		Date Prep:	06.21.17 15.30			Wet Weight	
Seq Number: Parameter	3020299	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride		16887-00-6	5.83	4.95	mg/kg	06.21.17 16.0	5	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	Lab Sample Id: 555513-004			Soil cted: 06.14.17 12.45	Date Received:06.15.17 15.00 Sample Depth:4 ft			
Analytical Me Tech:	thod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: E % Moisture:	300P	
Analyst:	MGO		Date Prep:	06.21.17 15.30		Basis: W	Vet Weight	
Seq Number:	3020299							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	6.98	4.91	mg/kg	06.21.17 16.13		1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:PLS20Lab Sample Id:555513-005		Matrix: Date Collec	Soil cted: 06.14.17 13.00	Date Received:06.15.17 15.00 Sample Depth:4 ft				
Analytical Method: Inorganic Anions Tech: MGO	by EPA 300/300.1				Prep Method: E3 % Moisture:	00P		
Analyst: MGO		Date Prep:	06.21.17 15.30			et Weight		
Seq Number: 3020299								
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride	16887-00-6	<4.94	4.94	mg/kg	06.21.17 16.20	U	1	





### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id:PLS24Lab Sample Id:555513-006	Matrix: Date Colle	Soil ected: 06.14.17 13.15		Date Received:06. Sample Depth:4 f		00
Analytical Method: Inorganic Anions by EPA 300/30 Tech: MGO	0.1			Prep Method: E30 % Moisture:	00P	
Analyst: MGO	Date Prep	: 06.21.17 15.30			t Weight	
Seq Number: 3020299						
Parameter Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride 16887-00-6	12.4	4.96	mg/kg	06.21.17 16.43		1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>PLS28</b> d: 555513-007		Matrix: Date Collec	Soil cted: 06.14.17 13.30	Date Received:06.15.17 15.00 Sample Depth: 4 ft				
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: E3 % Moisture:	00P		
Analyst:	MGO		Date Prep:	06.21.17 15.30		,	et Weight		
Seq Number:	3020299								
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride		16887-00-6	<4.98	4.98	mg/kg	06.21.17 16.51	U	1	





### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>PLS32</b> d: 555513-008		Matrix: Date Colle	Soil cted: 06.14.17 13.45	Date Received:06.15.17 15.00 Sample Depth: 4 ft			
Analytical Me	ethod: Inorganic Anions	by EPA 300/300.1				Prep Method: E3	800P	
Tech:	MGO					% Moisture:		
Analyst:	MGO		Date Prep:	06.21.17 15.30		Basis: W	et Weight	
Seq Number:	3020299							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	10.8	4.94	mg/kg	06.21.17 16.58		1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

~~~r~~	Sample Id: <b>PLS36</b> Lab Sample Id: 555513-009 Analytical Method: Inorganic Anions by EPA 300/300.			Soil cted: 06.14.17 14.00	Date Received:06.15.17 15.00 Sample Depth: 4 ft				
2	od: Inorganic Anions	by EPA 300/300.1				Prep Method: H % Moisture:	E300P		
100111	MGO		Date Prep:	06.21.17 15.30		,	Wet Weight		
Seq Number: 3	8020299								
Parameter		Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil	
Chloride		16887-00-6	<4.99	4.99	mg/kg	06.21.17 17.00	6 U	1	





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: Lab Sample Id	<b>PLS40</b> d: 555513-010		Matrix: Date Collec	Soil cted: 06.14.17 14.15	Date Received:06.15.17 15.00 Sample Depth:4 ft				
Analytical Me Tech:	ethod: Inorganic Anions MGO	by EPA 300/300.1				Prep Method: E3 % Moisture:	00P		
Analyst:	MGO		Date Prep:	06.21.17 15.30			et Weight		
Seq Number:	3020299								
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride		16887-00-6	<4.95	4.95	mg/kg	06.21.17 17.13	U	1	



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection				
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation				

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



# QC Summary 555513

### KJE Enviromental & Civil Engineering

Flag

Analytical Method:	Inorganic Anions by EPA 300/300.1								Prep Method: E300P				
Seq Number:	3020299			Matrix:	Soil				Date Pre	ep: 06.2	1.17		
Parent Sample Id:	555513-001	MS Sar	nple Id:	555513-00	01 S		MSD Sample Id: 555513-001 SD						
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Chloride	<4.99	250	249	100	266	106	90-110	7	20	mg/kg	06.21.17 15:42		

Analytical Method:	Inorganic Anions by EPA 300/300.1								ep Metho	d: E30	OP	
Seq Number:	3020299 Matrix:				Soil	Date Prep: 06.21.17						
Parent Sample Id:	555516-001	555516-00	5516-001 S MSD Sample Id:					l: 555516-001 SD				
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	223	249	455	93	457	94	90-110	0	20	mg/kg	06.21.17 17:29	
Setting the Standard since 1990       Ellipsin, 1X (1913) 363-341       Manual, 1X (1913) 363-341       Manual, 1X (1913) 363-341         Suther, 1X (291) 364-300       Ellipsin, 1X (1913) 363-341       Manual, 1X (1913) 363-341       Manual, 1X (1913) 363-341         Company Manual / Ellipsin, 1X (1913) 363-341       Ellipsin, 1X (1913) 363-341       Manual, 1X (1913) 363-341       Manual, 1X (1913) 363-341         Company Manual / Ellipsin, 1X (1913) 363-341       Englissin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Intromation         Company Manual / Ellipsin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Intromation         Company Manual / Ellipsin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Intromation         Company Manual / Ellipsin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Intromation         Company Manual / Ellipsin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Project Manualin, 1X (1913) 363-341       Intromation         Enable       Ellipsin, 1X (1913) 363-341       Ellipsin, 1X (1913) 363-341       Intromation       Intromation         Enable       Ellipsin, 1X (1913) 363-341       Ellipsin, 1X (1913) 363-341       Intromation       Intromation         Samples       Ellipsin, 1X (1914	CHAIN OF CUSTO         Naland, TX (323) 704-540         San Antonio, TX (210) 509-3334         www.xonco.com         Project Information         Project Information         Project Information         Project Information         Project Information         TGL INFORMATION TO Project Used INFORMATION TO Project Used INFORMATION         Online To:         Online To:      Online To:         Online To:         Online To:         Online To:         Online To:         Online To:         Online To:         Online To:         Online To: <t< th=""><th>CHAIN OF and Antonio, TX (23) 704-540 San Antonio, TX (210) 509-3334       Phonix, A service of service of service of service of service of service of the served served between the s</th></t<>	CHAIN OF and Antonio, TX (23) 704-540 San Antonio, TX (210) 509-3334       Phonix, A service of service of service of service of service of service of the served served between the s										
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CHAIN OF Page $\downarrow$ of $\downarrow$ Midland, TX (432) 704-540 San Antonio, TX (210) 509-3334         WWW.Xenco.com         Project Information         Data       I (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	CHAIN OF CUSTODY	ooo lougo, LA (832) 712- Analytical Informati Analytical Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati Informati										
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Final 1.000

Revision 2016.1



#### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: KJE Enviromental & Civil Engineering	Acceptable Temperature Range: 0 - 6 degC					
Date/ Time Received: 06/15/2017 03:00:00 PM	Air and Metal samples Acceptable Range: Ambient					
Work Order #: 555513	Temperature Measuring device used: r8					
Sample Recei	ot Checklist Comments					
#1 *Temperature of cooler(s)?	4.5					
#2 *Shipping container in good condition?	Yes					
#3 *Samples received on ice?	Yes					
#4 *Custody Seal present on shipping container/ cooler?	N/A					
#5 *Custody Seals intact on shipping container/ cooler?	N/A					
#6 Custody Seals intact on sample bottles?	N/A					
#7 *Custody Seals Signed and dated?	N/A					
#8 *Chain of Custody present?	Yes					
#9 Sample instructions complete on Chain of Custody?	Yes					
#10 Any missing/extra samples?	No					
#11 Chain of Custody signed when relinquished/ received?	Yes					
#12 Chain of Custody agrees with sample label(s)?	Yes					
#13 Container label(s) legible and intact?	Yes					
#14 Sample matrix/ properties agree with Chain of Custody?	Yes					
#15 Samples in proper container/ bottle?	Yes					
#16 Samples properly preserved?	Yes					
#17 Sample container(s) intact?	Yes					
#18 Sufficient sample amount for indicated test(s)?	Yes					
#19 All samples received within hold time?	Yes					
#20 Subcontract of sample(s)?	N/A					
#21 VOC samples have zero headspace?	N/A					

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by: Marithza Anaya

Date: 06/16/2017

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 06/16/2017



Project Id:102816DContact:James FoxProject Location:Jal, NM

#### Certificate of Analysis Summary 556031 KJE Enviromental & Civil Engineering, Aubrey, TX Project Name: OWL



Date Received in Lab:Thu Jun-22-17 01:30 pmReport Date:27-JUN-17Project Manager:Holly Taylor

	Lab Id:	556031-0	01	556031-0	02	556031-0	03	556031-0	)04	556031-0	005	
Analysis Requested	Field Id:	G10		G20		G30		G40		G49		
Analysis Kequestea	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Jun-22-17 1	2:45	Jun-22-17 1	2:45	Jun-22-17	2:45	Jun-22-17	12:45	Jun-22-17	12:45	
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-26-17 2	Jun-26-17 20:17		Jun-26-17 20:17		0:17	Jun-26-17 20:17		Jun-26-17 20:17		
	Analyzed:	Jun-26-17 2	Jun-26-17 21:20		Jun-26-17 21:43		21:50	Jun-26-17 21:58		Jun-26-17 22:05		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		54.5	4.97	58.6	4.97	67.3	4.99	14.9	4.92	50.6	4.98	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

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Holly Taylor Project Manager

# Analytical Report 556031

# for KJE Enviromental & Civil Engineering

**Project Manager: James Fox** 

OWL

#### 102816D

#### 27-JUN-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



27-JUN-17



Project Manager: **James Fox KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **556031 OWL** Project Address: Jal, NM

#### James Fox:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 556031. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 556031 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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# Sample Cross Reference 556031



# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
G10	S	06-22-17 12:45	1 ft	556031-001
G20	S	06-22-17 12:45	1 ft	556031-002
G30	S	06-22-17 12:45	1 ft	556031-003
G40	S	06-22-17 12:45	1 ft	556031-004
G49	S	06-22-17 12:45	1 ft	556031-005



#### CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: OWL

Project ID: 102816D Work Order Number(s): 556031 
 Report Date:
 27-JUN-17

 Date Received:
 06/22/2017

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>G10</b> Lab Sample Id: 556031-001		Matrix: Date Collec	Soil cted: 06.22.17 12.45	-	Date Received:( Sample Depth: 1		
Analytical Method: Inorganic A	nions by EPA 300/300.1				Prep Method: H	E300P	
Tech: MGO				(	% Moisture:		
Analyst: MGO		Date Prep:	06.26.17 20.17	]	Basis: V	Wet Weight	
Seq Number: 3020798							
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	54.5	4.97	mg/kg	06.26.17 21.20	)	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>G20</b> Lab Sample Id: 556031-002		Matrix: Date Collec	Soil cted: 06.22.17 12.45		Date Received:0 Sample Depth: 1		
Analytical Method: Inorganic Anion Tech: MGO	s by EPA 300/300.1				Prep Method: E	E300P	
Tech: MGO Analyst: MGO		Date Prep:	06.26.17 20.17		% Moisture: Basis: V	Wet Weight	
Seq Number: 3020798							
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag Di	il
Chloride	16887-00-6	58.6	4.97	mg/kg	06.26.17 21.43	3 1	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>G30</b> Lab Sample Id: 556031-003		Matrix: Date Collec	Soil cted: 06.22.17 12.45		Date Received:( Sample Depth: 1		)
Analytical Method: Inorganic Anions Tech: MGO	by EPA 300/300.1				Prep Method: I % Moisture:	E300P	
Analyst: MGO		Date Prep:	06.26.17 20.17			Wet Weight	
Seq Number: 3020798							
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	67.3	4.99	mg/kg	06.26.17 21.50	0	1





#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: G40 Lab Sample Id: 556031-004		Matrix: Date Collec	Soil cted: 06.22.17 12.45	-	Date Received:0 Sample Depth: 1		)
Analytical Method: Inorganic Anion Tech: MGO	s by EPA 300/300.1				Prep Method: E % Moisture:	2300P	
Analyst: MGO		Date Prep:	06.26.17 20.17			Vet Weight	
Seq Number: 3020798							
Parameter Chloride	Cas Number 16887-00-6	Result 14.9	<b>RL</b> 4.92	Units mg/kg	Analysis Date	8	<b>Dil</b>





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>G49</b> Lab Sample Id: 556031-005		Matrix: Date Collec	Soil eted: 06.22.17 12.45	-	Date Received: Sample Depth:		0
Analytical Method: Inorganic Anion	ns by EPA 300/300.1			]	Prep Method:	E300P	
Tech: MGO					% Moisture:		
Analyst: MGO		Date Prep:	06.26.17 20.17	]	Basis:	Wet Weight	
Seq Number: 3020798							
Parameter	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride	16887-00-6	50.6	4.98	mg/kg	06.26.17 22.0	5	1



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



# QC Summary 556031

# **KJE Enviromental & Civil Engineering** OWL

Analytical Method:	Inorganic Anions b	y EPA 300	/300.1					Pr	ep Metho	od: E300	)P	
Seq Number:	3020798			Matrix:	Solid				Date Pre	ep: 06.2	6.17	
MB Sample Id:	726771-1-BLK		LCS Sar	nple Id:	726771-1	BKS		LCSI	O Sample	Id: 7267	71-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	< 5.00	250	250	100	251	100	90-110	0	20	mg/kg	06.26.17 21:05	

Analytical Method:	Inorganic Anions h	y EPA 300/	/300.1					Pr	ep Metho	d: E30	00P	
Seq Number:	3020798			Matrix:	Soil				Date Pre	ep: 06.2	26.17	
Parent Sample Id:	556031-001		MS Sar	nple Id:	556031-00	01 S		MS	O Sample	Id: 556	031-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
											06.26.17 21:27	

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1					Pr	ep Metho	od: E300	OP	
Seq Number:	3020798			Matrix:	Soil				Date Pre	ep: 06.2	6.17	
Parent Sample Id:	556291-001		MS Sar	nple Id:	556291-00	01 S		MSI	O Sample	Id: 5562	291-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	654	250	924	108	878	90	90-110	5	20	mg/kg	06.26.17 23:14	

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										Analytica	Analytical Information	5	.00000	Matrix Codes
Client / Reporting Information			Proj	Project Information	ion							_		
Company Name / Branch:	tal.	Project I	Project Name/Number:	OWL	102816	160			_					W = Water S = Soil/Sed/Solid
Company Address: 500 MOSEby Rd, (1054	, ( whi Reads, TX 76227	Proje	Jal, NM	M										GW = Ground Water DW = Drinking Water P = Product SW = Surface Water
Email: dona & Kjenvironnentzh.com Phone No:	,comPhone No:	Invoice To:	ice To: Dial - Phillip	d'Il'p	Senders	615						_		SL - Sludge OW = Ocean/Sea Water WI = Wipe
Project Contact: J. (Fox)		PO Number:	iber:	1							_			WW = Waste Water A = Air
Samplers's Name: J. Fox								1	des	_	_			
		Collection	nc		7	Number of	Number of preserved bottles		sic		_			
No. Field ID / Point of Collection	ollection Sample Depth		Time	-	HCI	NaOH/Zn Acetate HNO3	H2SO4 NaOH NaHSO4	NONE	Chlo				Fie	Field Comments
1 6110	1	6	12	S										
2 6,20			1	-										
3 6 30														
5														
5 6 49	4	+	+	4	4			tt						
0														
7														
8			-											
9														
10 Turnsround Time / Business dave/		-			nata Deliverable Information	Information				-	Note:			
Same Day TAT	5 Day TAT		Le	Level II Std QC			Level IV (Full Data Pkg /raw data)	Data Pkg /ra	w data)					
Next Day EMERGENCY	7 Day TAT		Le	Level III Std QC+ Forms	C+ Forms		TRRP Level IV	<						
2 Day EMERGENCY	Contract TAT		Le	Level 3 (CLP Forms)	orms)	П	UST / RG -411	-						
3 Day EMERGENCY			Le	Level II Report with TRRP checklist	rt with TRF	<b>RP</b> checklis	st						4 <00	j
TAT Starts Day received by Lab, if received by 5:00 pm	o, if received by 5:00 pm										FED-EX / UP		CE-(0-6: -0.2°C)	וא וש:א-8
Relinquished by Sampler:	SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME	Date Time; 13	13.30 Received By		AMPLES CH	HANGE POS	Relinquished By:	By:		Date Time:			(6-23: +0.2°C)	7
	Date Time:	ime:	Received By:	1By:	1		Relinquished By:	By:		Date Time:			Corrected Lemp: 4.	1.5°C
Relinquished by:	Date Time:	ime:	Received By:	1 By:			Custody Seal #	**	Preser	Preserved where applicable	applicable	3	On Ice Cooler Temp.	Thermo, Corr. Factor

Final 1.000



#### **XENCO Laboratories** Prelogin/Nonconformance Report- Sample Log-In



Client: KJE Enviromental & Civil Engineering	Acceptable Temperature Range: 0 - 6 degC					
Date/ Time Received: 06/22/2017 01:30:00 PM	Air and Metal samples Acceptable Range: Ambient					
Work Order #: 556031	Temperature Measuring device used : R8					
Sample Recei	pt Checklist Comments					
#1 *Temperature of cooler(s)?	4.3					
#2 *Shipping container in good condition?	Yes					
#3 *Samples received on ice?	Yes					
#4 *Custody Seal present on shipping container/ cooler?	N/A					
#5 *Custody Seals intact on shipping container/ cooler?	N/A					
#6 Custody Seals intact on sample bottles?	N/A					
#7 *Custody Seals Signed and dated?	N/A					
#8 *Chain of Custody present?	Yes					
#9 Sample instructions complete on Chain of Custody?	Yes					
#10 Any missing/extra samples?	No					
#11 Chain of Custody signed when relinquished/ received?	Yes					
#12 Chain of Custody agrees with sample label(s)?	Yes					
#13 Container label(s) legible and intact?	Yes					
#14 Sample matrix/ properties agree with Chain of Custody?	Yes					
#15 Samples in proper container/ bottle?	Yes					
#16 Samples properly preserved?	Yes					
#17 Sample container(s) intact?	Yes					
#18 Sufficient sample amount for indicated test(s)?	Yes					
#19 All samples received within hold time?	Yes					
#20 Subcontract of sample(s)?	N/A					

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

#21 VOC samples have zero headspace?

Checklist completed by: Marithza Anaya

Date: 06/22/2017

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 06/22/2017

N/A



Project Id:Contact:Tanner EvansProject Location:Jal, NM

#### Certificate of Analysis Summary 556631

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name:** Bobcat/Red Hills Pipeline Release

Date Received in Lab:Thu Jun-29-17 02:33 pmReport Date:07-JUL-17Project Manager:Holly Taylor

	Lab Id:	556631-001			
Analysis Requested	Field Id:	H10			
Analysis Kequestea	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-28-17 12:00			
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-06-17 14:45			
	Analyzed:	Jul-06-17 21:11			
	Units/RL:	mg/kg RL			
Chloride		411 4.96			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Holly Taylor Project Manager

# Analytical Report 556631

# for KJE Enviromental & Civil Engineering

Project Manager: Tanner Evans Bobcat/Red Hills Pipeline Release

#### 07-JUL-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



07-JUL-17



Project Manager: **Tanner Evans KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **556631 Bobcat/Red Hills Pipeline Release** Project Address: Jal, NM

#### Tanner Evans:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 556631. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 556631 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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Holly Taylor Project Manager

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# Sample Cross Reference 556631



#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
H10	S	06-28-17 12:00	N/A	556631-001



#### CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 556631 
 Report Date:
 07-JUL-17

 Date Received:
 06/29/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>H10</b> Lab Sample Id: 556631-001		Matrix: Date Collec	Soil cted: 06.28.17 12.00		Date Received:0	6.29.17 14.3	3
Analytical Method: Inorganic Anions Tech: MGO Analyst: MGO Seq Number: 3021689	by EPA 300/300.1	Date Prep:	07.06.17 14.45		Prep Method: E % Moisture: Basis: W	300P /et Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	411	4.96	mg/kg	07.06.17 21.11		1



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



QC Summary 556631

#### KJE Enviromental & Civil Engineering

Analytical Method:	Inorganic Anions b	y EPA 300	/300.1					Pr	ep Metho	od: E30	0P	
Seq Number:	3021689			Matrix:	Solid				Date Pre	ep: 07.0	6.17	
MB Sample Id:	727282-1-BLK		LCS Sar	nple Id:	727282-1	BKS		LCSI	O Sample	e Id: 7272	282-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	< 5.00	250	258	103	247	99	90-110	4	20	mg/kg	07.06.17 19:23	

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1					Pr	ep Metho	d: E30	0P	
Seq Number:	3021689			Matrix:	Soil				Date Pre	ep: 07.0	6.17	
Parent Sample Id:	556598-001		MS San	nple Id:	556598-00	01 S		MSI	O Sample	Id: 556	598-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	213	250	466	101	467	103	90-110	0	20	mg/kg	07.06.17 19:46	

Relinquished by:	Relinquished by:	relinguished by Sampler:		TAT Starts Day received by Lab, if received by 5:00 pm	3 Day EMERGENCY	2 Day EMERGENCY	Next Day EMERGENCY	Same Day TAT	Turnaround Time (Business days)	10	20	σ	7	6	G	4	ω	2	- H10	No. Field ID / Point of Collection		Samplers's Name: Thomas Trons	Project Contact: TANNE TELENS	Email: Phone No: Phone No: Phone No: Tanal @ holyn nonnersal, col (930)928	Company Address: 500 Moseley Rond, Cross Roads Th	Company Name / Branch: Iくろに	Client / Reporting Information			Stafford, TX (281) 240-4200         El Paso, TX (915) 585-3443           Dallas, TX (214) 902-0300         Lubbock, TX (806) 794-1296	Setting the Standard since 1990	LABORATORIES
Date Time:	Date Time	13 Date Time:	TODY MUST BE D	/ 5:00 pm		AT													1	Sample Depth				-					Ī	5) 585-3443 (06) 794-1296		
		7/29 Rec	SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES														,		0021 82/9	Date Tr	Collection	ľ	PO Number:	Invoice To:	Project Location: Jal JMM	Project Name/Number: OWL Gobcat/Red 2; 115 Piles in Rollinsk						Page OI
Received By:	Received By:	ceived By:	LOW EACH TI		Level II Report with TRRP checklist	Level 3 (CLP Forms)	Level III S	Level II Std QC											5 06	me Matrix				OWL-Oilfield	sLJN	Number:	Project Information			Midland, TX San Antoni		
		PA	ME SAMPLES		eport with T	LP Forms)	Level III Std QC+ Forms	d QC	Data Deliverable Information										-	# of bottles				- Oilf	M	WL BO	rmation		www.xenco.com	Midland, TX (432) 704-5440 San Antonio, TX (210) 509-3334		Page
		Mag	CHANGE PO		RRP check		° n		le Informatio											NaOH/Zn Acetate HNO3	Number c					beat/Re			com	440 )9-3334		1 or 1
Custody Seal #	Relinquished By:	Bolinquished By:	SSESSION, IN		ist	UST / RG -411	TRRP Level IV	Level IV												H2SO4 NaOH	Number of preserved bottles			mater logistic		dh: lls f						`
eal#	ned By:	led By:	CHANGE POSSESSION, INCLUDING COURIER DELIVERY			-411	Vel IV	Level IV (Full Data Pkg /raw data)								_			×	NaHSO4 MEOH NONE	bottles			gis try		felin R.				Phoenix Service		
Pres			URIER DELIV					g /raw data)	-										×	Chia	-10	le:	5		-	elsess C.			Xenco Quote #	Phoenix, AZ (480) 35 Service Center - Bat		
Preserved where applicable	Date Time:	Date Time:	ERY						-												_							Analytica	0#	Phoenix, AZ (480) 355-0900 Service Center - Baton Rouge, LA (832) 712-8143		
	AR	2 R		FED-EX / UP					Notes:												_							Analytical Information	×	(832) 712-8-		
	Received By:	Received By: 2		FED-EX / UP'S: Tracking #	Correcte	(6-2	CF:(0-6: -0 2	Tomp.C	-													_							Xenco Job #	43		
enter c					Corrected Temp: <	(6-23: +0.2°C)	CF:(0-6: -0 2°C)	A. I				_		_								_							55	0 0		
Cooler Temp.				1	0	0 -														л								-	John J	ervice Cente ervice Cente		
Thermo. C				1	N		IH ID:H-8	5												Field Comments			WW = Waste Water A = Air	SL - Sludge OW = Ocean WI = Wipe 0 = Oil	DW = Drinking Water P = Product SW = Surface Water	W = Water S = Soil/Sed/Solid GW = Ground Water		Matrix Codes	21	Service Center- Amarillo, TX (806)678-4514 Service Center- Hobbs, NM (575) 392-7550		
Thermo. Corr. Factor																				σ,			te Water	SL - Sludge OW = Ocean/Sea Water WI = Wipe O = Oil	t ce Water	d/Solid		odes		X (806)678-		

Page 9 of 10

Final 1.000



#### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: KJE Enviromental & Civil Engineering Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 06/29/2017 02:33:00 PM Temperature Measuring device used : R8 Work Order #: 556631 Comments Sample Receipt Checklist 9.3 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A #6 Custody Seals intact on sample bottles? N/A #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes #14 Sample matrix/ properties agree with Chain of Custody? Yes

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer

#15 Samples in proper container/ bottle?

#19 All samples received within hold time?

#21 VOC samples have zero headspace?

#18 Sufficient sample amount for indicated test(s)?

#16 Samples properly preserved?

#17 Sample container(s) intact?

#20 Subcontract of sample(s)?

Date: 06/29/2017

Checklist reviewed by:

Hely Taylor Holly Taylor

Date: 06/29/2017

Yes

Yes

Yes

Yes

Yes

N/A

N/A



Project Id:Contact:Tanner EvansProject Location:Jal, NM

# Certificate of Analysis Summary 556930

KJE Enviromental & Civil Engineering, Aubrey, TX



**Project Name: Bobcat/Red Hills Pipeline Release** 

Date Received in Lab:Thu Jul-06-17 12:00 pmReport Date:10-JUL-17Project Manager:Holly Taylor

	Lab Id:	556930-0	01	556930-0	02	556930-0	03			
Analysis Requested	Field Id:	H20		H30		H40				
Analysis Kequestea	Depth:									
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Jul-06-17 1	0:00	Jul-06-17 1	0:15	Jul-06-17 1	0:30			
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-07-17 1	7:10	Jul-07-17 1	7:10	Jul-07-17 1	7:10			
	Analyzed:	Jul-08-17 0	1:47	Jul-08-17 0	1:55	Jul-08-17 0	2:18			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		367	4.99	380	4.96	973	4.99			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Holly Taylor Project Manager

# Analytical Report 556930

# for KJE Enviromental & Civil Engineering

Project Manager: Tanner Evans Bobcat/Red Hills Pipeline Release

#### 10-JUL-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



10-JUL-17



Project Manager: **Tanner Evans KJE Enviromental & Civil Engineering** 500 Mosley Rd Aubrey, TX 76227

Reference: XENCO Report No(s): **556930 Bobcat/Red Hills Pipeline Release** Project Address: Jal, NM

#### Tanner Evans:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 556930. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 556930 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

toly Jaylor

Holly Taylor Project Manager

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# Sample Cross Reference 556930



#### KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
H20	S	07-06-17 10:00	N/A	556930-001
H30	S	07-06-17 10:15	N/A	556930-002
H40	S	07-06-17 10:30	N/A	556930-003



#### CASE NARRATIVE

Client Name: KJE Enviromental & Civil Engineering Project Name: Bobcat/Red Hills Pipeline Release

Project ID: Work Order Number(s): 556930 Report Date: 10-JUL-17 Date Received: 07/06/2017

#### Sample receipt non conformances and comments:

#### Sample receipt non conformances and comments per sample:

None

#### Analytical non conformances and comments:

Batch: LBA-3021784 Inorganic Anions by EPA 300/300.1

Lab Sample ID 556930-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 556930-001, -002, -003.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>H20</b> Lab Sample Id: 556930-001		Matrix: Date Collec	Soil cted: 07.06.17 10.00		Date Received:07	7.06.17 12.0	0
Analytical Method: Inorganic Anions Tech: MGO Analyst: MGO Seq Number: 3021784	by EPA 300/300.1	Date Prep:	07.07.17 17.10		Prep Method: E. % Moisture: Basis: W	300P Vet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	367	4.99	mg/kg	07.08.17 01.47		1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>H30</b> Lab Sample Id: 556930-002		Matrix: Date Collec	Soil cted: 07.06.17 10.15		Date Received:07	.06.17 12.00	0
Analytical Method:Inorganic Anions ITech:MGOAnalyst:MGOSeq Number:3021784	by EPA 300/300.1	Date Prep:	07.07.17 17.10		Prep Method: E3 % Moisture: Basis: W	800P et Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	380	4.96	mg/kg	07.08.17 01.55		1





# KJE Enviromental & Civil Engineering, Aubrey, TX

Sample Id: <b>H40</b> Lab Sample Id: 556930-003		Matrix: Date Collec	Soil cted: 07.06.17 10.30		Date Received:0'	7.06.17 12.00	0
Analytical Method: Inorganic Anions Tech: MGO Analyst: MGO Seq Number: 3021784	by EPA 300/300.1	Date Prep:	07.07.17 17.10		Prep Method: E % Moisture: Basis: W	300P Vet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	973	4.99	mg/kg	07.08.17 02.18		1



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



#### KJE Enviromental & Civil Engineering

Analytical Method:	Inorganic Anions b	y EPA 300	/300.1					Pr	ep Metho	od: E300	OP	
Seq Number:	3021784			Matrix:	Solid				Date Pre	ep: 07.0	7.17	
MB Sample Id:	727342-1-BLK		LCS Sar	nple Id:	727342-1-	BKS		LCSI	D Sample	Id: 7273	342-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1					Pr	ep Metho	d: E30	0P	
Seq Number:	3021784			Matrix:	Soil				Date Pre	ep: 07.0	7.17	
Parent Sample Id:	556810-004		MS Sar	nple Id:	556810-0	04 S		MS	D Sample	Id: 5568	810-004 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	246	411	110	451	126	90-110	9	20	mg/kg	07.08.17 00:15	Х

Analytical Method:	Inorganic Anions b	y EPA 300/	/300.1					Pr	ep Metho	d: E30	)P	
Seq Number:	3021784			Matrix:	Soil				Date Pre	ep: 07.0	7.17	
Parent Sample Id:	556930-002		MS Sar	nple Id:	556930-00	02 S		MSI	O Sample	Id: 5569	930-002 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	380	248	638	104	596	87	90-110	7	20	mg/kg	07.08.17 02:02	Х

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Setting the Standard since 1990

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Nonce: signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples constitutes and shall not assume any responsibility for any losses or expenses incurred by the Client If such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract. 5 Notice:

Final 1.000



#### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: KJE Enviromental & Civil Engineering Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 07/06/2017 12:00:00 PM **Temperature Measuring device used :** Work Order #: 556930 Comments Sample Receipt Checklist 15.8 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A #6 Custody Seals intact on sample bottles? N/A #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes R8 #13 Container label(s) legible and intact? Yes #14 Sample matrix/ properties agree with Chain of Custody? Yes #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? No

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst: ss

PH Device/Lot#:

#21 VOC samples have zero headspace?

Checklist completed by: Have Smith

Date: 07/06/2017

N/A

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 07/07/2017