

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Portal Partners Tri-Venture **level:** low **sdg no.:** P4460
contract: PORT06 **lab code:** CHEM **case no.:** P4460 **sas no.:** P4460
matrix: Solid **sample id:** P4443-01 **client id:** OG-315-HR-502-COMP-29MS
Percent Solids for Sample: 92 **Spiked ID:** P4443-01MS **Percent Solids for Spike Sample:** 92

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 124	0.46		0.14		0.27	118		CV

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>Portal Partners Tri-Venture</u>	level:	<u>low</u>	sdg no.:	<u>P4460</u>		
contract:	<u>PORT06</u>	lab code:	<u>CHEM</u>	case no.:	<u>P4460</u>	sas no.:	<u>P4460</u>
matrix:	<u>Solid</u>	sample id:	<u>P4443-01</u>	client id:	<u>OG-315-HR-502-COMP-29MSD</u>		
Percent Solids for Sample:	<u>92</u>	Spiked ID:	<u>P4443-01MSD</u>	Percent Solids for Spike Sample:	<u>92</u>		

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 124	0.47		0.14		0.28	114		CV

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Portal Partners Tri-Venture **level:** low **sdg no.:** P4460

contract: PORT06 **lab code:** CHEM **case no.:** P4460 **sas no.:** P4460

matrix: Solid **sample id:** P4460-03 **client id:** WB-303-BOTMS

Percent Solids for Sample: 80.1 **Spiked ID:** P4460-03MS **Percent Solids for Spike Sample:** 80.1

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	5620		7450		110	-1667		P
Antimony	mg/Kg	75 - 125	28.5		3.03	U	44.2	64	N	P
Arsenic	mg/Kg	75 - 125	34.7		1.46		44.2	75		P
Barium	mg/Kg	75 - 125	27.2		26.9		11.0	3	N	P
Beryllium	mg/Kg	75 - 125	8.36		0.68		11.0	70	N	P
Cadmium	mg/Kg	75 - 125	11.6		2.27		11.0	85		P
Calcium	mg/Kg	75 - 125	3480		2810		55.2	1219		P
Chromium	mg/Kg	75 - 125	28.7		14.6		22.1	64	N	P
Cobalt	mg/Kg	75 - 125	18.3		10.5		11.0	72	N	P
Copper	mg/Kg	75 - 125	24.7		16.5		16.6	50	N	P
Iron	mg/Kg	75 - 125	13600		18500		170	-2850		P
Lead	mg/Kg	75 - 125	55.2		9.67		55.2	82		P
Magnesium	mg/Kg	75 - 125	4170		4680		110	-463		P
Manganese	mg/Kg	75 - 125	255		273		11.0	-167		P
Nickel	mg/Kg	75 - 125	40.8		19.8		27.6	76		P
Potassium	mg/Kg	75 - 125	1380		1320		550	11	N	P
Selenium	mg/Kg	75 - 125	75.9		1.21	U	110	69	N	P
Silver	mg/Kg	75 - 125	3.44		0.61	U	4.1	84		P
Sodium	mg/Kg	75 - 125	953		1020		170	-42		P
Thallium	mg/Kg	75 - 125	94.0		2.42	U	110	86		P
Vanadium	mg/Kg	75 - 125	26.3		18.2		16.6	49	N	P
Zinc	mg/Kg	75 - 125	39.0		40.5		11.0	-14	N	P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Portal Partners Tri-Venture **level:** low **sdg no.:** P4460
contract: PORT06 **lab code:** CHEM **case no.:** P4460 **sas no.:** P4460
matrix: Solid **sample id:** P4460-03 **client id:** WB-303-BOTMSD
Percent Solids for Sample: 80.1 **Spiked ID:** P4460-03MSD **Percent Solids for Spike Sample:** 80.1

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	5190		7450		100	-2269		P
Antimony	mg/Kg	75 - 125	26.4		3.03	U	40.9	64	N	P
Arsenic	mg/Kg	75 - 125	32.2		1.46		40.9	75		P
Barium	mg/Kg	75 - 125	24.8		26.9		10.2	-20	N	P
Beryllium	mg/Kg	75 - 125	7.78		0.68		10.2	70	N	P
Cadmium	mg/Kg	75 - 125	10.8		2.27		10.2	83		P
Calcium	mg/Kg	75 - 125	3220		2810		51.2	816		P
Chromium	mg/Kg	75 - 125	26.7		14.6		20.5	59	N	P
Cobalt	mg/Kg	75 - 125	17.0		10.5		10.2	64	N	P
Copper	mg/Kg	75 - 125	22.8		16.5		15.3	42	N	P
Iron	mg/Kg	75 - 125	12700		18500		150	-3832		P
Lead	mg/Kg	75 - 125	51.4		9.67		51.2	82		P
Magnesium	mg/Kg	75 - 125	3850		4680		100	-826		P
Manganese	mg/Kg	75 - 125	235		273		10.2	-372		P
Nickel	mg/Kg	75 - 125	37.9		19.8		25.6	71	N	P
Potassium	mg/Kg	75 - 125	1290		1320		510	-6	N	P
Selenium	mg/Kg	75 - 125	70.6		1.21	U	100	71	N	P
Silver	mg/Kg	75 - 125	3.23		0.61	U	3.8	85		P
Sodium	mg/Kg	75 - 125	889		1020		150	-90		P
Thallium	mg/Kg	75 - 125	87.1		2.42	U	100	87		P
Vanadium	mg/Kg	75 - 125	24.3		18.2		15.3	40	N	P
Zinc	mg/Kg	75 - 125	36.3		40.5		10.2	-41	N	P

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Portal Partners Tri-Venture **level:** low **sdg no.:** P4460
contract: PORT06 **lab code:** CHEM **case no.:** P4460 **sas no.:** P4460
matrix: Water **sample id:** P4460-06 **client id:** WB-303-SWMS
Percent Solids for Sample: NA **Spiked ID:** P4460-06MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	1580		426		1000	115		P
Antimony	ug/L	75 - 125	558		3.58	J	400	139	N	P
Arsenic	ug/L	75 - 125	508		10.0	U	400	127	N	P
Barium	ug/L	75 - 125	125		28.9	J	100	96		P
Beryllium	ug/L	75 - 125	108		3.00	U	100	108		P
Cadmium	ug/L	75 - 125	83.3		3.00	U	100	83		P
Calcium	ug/L	75 - 125	206000		201000		500	969		P
Chromium	ug/L	75 - 125	160		2.34	J	200	79		P
Cobalt	ug/L	75 - 125	91.7		15.0	U	100	92		P
Copper	ug/L	75 - 125	125		10.0	U	150	83		P
Iron	ug/L	75 - 125	2150		574		1500	105		P
Lead	ug/L	75 - 125	413		6.00	U	500	83		P
Magnesium	ug/L	75 - 125	720000		704000		1000	1670		P
Manganese	ug/L	75 - 125	155		68.4		100	87		P
Nickel	ug/L	75 - 125	223		1.58	J	250	89		P
Potassium	ug/L	75 - 125	438000		468000		5000	-598		P
Selenium	ug/L	75 - 125	1310		10.0	U	1000	131	N	P
Silver	ug/L	75 - 125	67.2		5.00	U	37.5	179	N	P
Sodium	ug/L	75 - 125	6450000	D	6160000	D	1500	19155		P
Thallium	ug/L	75 - 125	825		20.0	U	1000	82		P
Vanadium	ug/L	75 - 125	147		20.0	U	150	98		P
Zinc	ug/L	75 - 125	174		19.8	J	100	154	N	P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Portal Partners Tri-Venture **level:** low **sdg no.:** P4460

contract: PORT06 **lab code:** CHEM **case no.:** P4460 **sas no.:** P4460

matrix: Water **sample id:** P4460-06 **client id:** WB-303-SWMSD

Percent Solids for Sample: NA **Spiked ID:** P4460-06MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	1720		426		1000	129	N	P
Antimony	ug/L	75 - 125	599		3.58	J	400	149	N	P
Arsenic	ug/L	75 - 125	544		10.0	U	400	136	N	P
Barium	ug/L	75 - 125	133		28.9	J	100	104		P
Beryllium	ug/L	75 - 125	111		3.00	U	100	111		P
Cadmium	ug/L	75 - 125	87.7		3.00	U	100	88		P
Calcium	ug/L	75 - 125	210000		201000		500	1828		P
Chromium	ug/L	75 - 125	167		2.34	J	200	82		P
Cobalt	ug/L	75 - 125	97.1		15.0	U	100	97		P
Copper	ug/L	75 - 125	132		10.0	U	150	88		P
Iron	ug/L	75 - 125	2190		574		1500	108		P
Lead	ug/L	75 - 125	434		6.00	U	500	87		P
Magnesium	ug/L	75 - 125	711000		704000		1000	741		P
Manganese	ug/L	75 - 125	158		68.4		100	90		P
Nickel	ug/L	75 - 125	235		1.58	J	250	94		P
Potassium	ug/L	75 - 125	487000		468000		5000	369		P
Selenium	ug/L	75 - 125	1400		10.0	U	1000	140	N	P
Silver	ug/L	75 - 125	70.5		5.00	U	37.5	188	N	P
Sodium	ug/L	75 - 125	6320000	D	6160000	D	1500	10476		P
Thallium	ug/L	75 - 125	882		20.0	U	1000	88		P
Vanadium	ug/L	75 - 125	152		20.0	U	150	101		P
Zinc	ug/L	75 - 125	182		19.8	J	100	162	N	P

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Portal Partners Tri-Venture **level:** low **sdg no.:** P4460
contract: PORT06 **lab code:** CHEM **case no.:** P4460 **sas no.:** P4460
matrix: Water **sample id:** P4546-03 **client id:** 34839-40MS
Percent Solids for Sample: NA **Spiked ID:** P4546-03MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	82 - 119	2.53		0.28		4.0	56	N	CV

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>Portal Partners Tri-Venture</u>	level:	<u>low</u>	sdg no.:	<u>P4460</u>		
contract:	<u>PORT06</u>	lab code:	<u>CHEM</u>	case no.:	<u>P4460</u>	sas no.:	<u>P4460</u>
matrix:	<u>Water</u>	sample id:	<u>P4546-03</u>	client id:	<u>34839-40MSD</u>		
Percent Solids for Sample:	<u>NA</u>	Spiked ID:	<u>P4546-03MSD</u>	Percent Solids for Spike Sample:	<u>NA</u>		

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	82 - 119	2.27		0.28		4.0	50	N	CV