

EXPLORATION LOG SA138-A4

PROJECT: TRONOX PHASE B
EXPLORATION LOCATION: TRONOX AREA 4
EXPLORATION SIZE (dia.): 3" CORE BARREL
ELEVATION: EXISTING GROUND SURFACE

PROJECT NO.: 20092518V1
EXPLORATION DATE: 10-6-2009
EQUIPMENT: SDC550-24 SONIC CORE RIG
LOGGED BY: SEARS/GAREY

INITIAL DEPTH TO WATER: NOT ENCOUNTERED
FINAL DEPTH TO WATER: NOT ENCOUNTERED

DATE MEASURED: N/A
DATE MEASURED: N/A

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	Pocket Penetrometer (tsf)	WELL CONSTRUCTION
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 10px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 20px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 30px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 40px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 50px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 60px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 70px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 80px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 90px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 100px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 110px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 120px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 130px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 140px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 150px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 160px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 170px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 180px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 190px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 200px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 210px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 220px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 230px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 240px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 250px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 260px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 270px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 280px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 290px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 300px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 310px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 320px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 330px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 340px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 350px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 360px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 370px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 380px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 390px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 400px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 410px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 420px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 430px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 440px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 450px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 460px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 470px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 480px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 490px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 500px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 510px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 520px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 530px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 540px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 550px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 560px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 570px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 580px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 590px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 600px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 610px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 620px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 630px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 640px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 650px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 660px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 670px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 680px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 690px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 700px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 710px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 720px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 730px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 740px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 750px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 760px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 770px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 780px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 790px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 800px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 810px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 820px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 830px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 840px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 850px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 860px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 870px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 880px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 890px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 900px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 910px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 920px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> <div style="position: absolute; top: 930px; left: 0; right: 0; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px);"></div> </div> <div style="margin-left: 10px;"> <p>21 19 18</p> </div> </div>	<p>FILL</p> <p>SW</p> <p>SW</p> <p>SW</p>	<p>FILL: SW, dark reddish brown (5YR 3/4)</p> <p>Collect SA138-0.5B, PID readings: 10.6 eV = 0.0 ppmV, 11.7 eV = 3.1 ppmV</p> <p>SAND with gravel, reddish brown (5YR 4/ 4), 90% fine to coarse sub-angular to sub-rounded sand, 10% fine to medium sub-angular to sub-rounded gravel, no plasticity, zones of weak calcite cementation</p> <p>Collect SA138-10B, SA138009-10B, PID readings: 10.6 eV = 6.7 ppmV, 11.7 eV = 12.6 eV</p> <p>...strong chemical odor present</p> <p>...gravel content to 5%, dense, dry, no plasticity, weak chemical odor</p>							

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EXPLORATION LOG SA138-A4

PROJECT: TRONOX PHASE B
EXPLORATION LOCATION: TRONOX AREA 4
EXPLORATION SIZE (dia.): 3" CORE BARREL
ELEVATION: EXISTING GROUND SURFACE

PROJECT NO.: 20092518V1
EXPLORATION DATE: 10-6-2009
EQUIPMENT: SDC550-24 SONIC CORE RIG
LOGGED BY: SEARS/GAREY

INITIAL DEPTH TO WATER: NOT ENCOUNTERED
FINAL DEPTH TO WATER: NOT ENCOUNTERED

DATE MEASURED: N/A
DATE MEASURED: N/A

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	Pocket Penetrometer (tsf)	WELL CONSTRUCTION
		SP	SAND, light reddish brown (5YR 6/3), 100% very fine to fine sand, dense, dry, no plasticity, variable zones of gypsum and calcite cementation, weak HCl reaction						
		SP	SAND, yellowish red (5YR 5/8), 100% very fine to fine sand, damp, loose, no plasticity, zones of gypsum cementation						
		SP	SAND, yellowish red (5YR 5/8), trace silt, 98% very fine to fine sand, loose, damp, medium plasticity						
		SP	Collect SA138-30B, PID readings: 10.6 eV = 0.6 ppmV, 11.7 eV = 0.0 ppmV						

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EXPLORATION LOG SA138-A4

PROJECT: TRONOX PHASE B
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DATE MEASURED: N/A
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ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	Pocket Penetrometer (tsf)	WELL CONSTRUCTION
		SP	...weak to moderate cementation						
		SP	Collect SA138-45B, PID readings: 10.6 eV = 0.2 ppmV, 11.7 eV = 0.0 ppmV SAND, yellowish red (5YR 5/8), trace silt, 98% very fine to fine sand, loose , moist, weak HCl reaction END OF BORING AT 46.5 FEET						

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