

July 7, 2014

Survey Analysis Summary of the Abandoned Objects in Koza Athletic Park

The abandoned objects in the Koza Athletic Park property survey analysis was investigated and the final report from the contractors was submitted. The overview of the results is in the report that follows:

Account Records

- 1 Investigation Period October 4th 2014~June 30th 2014
- 2 Survey Location Okinawa City Stadium (Soccer Field)
- 3 Survey Content 61 drum deposit samples, 2 bottom soil drum samples in stagnant water and 23 surface soil samples.
- 4 Survey Results Overview
 - (1) For drum deposits;
 - ① Observation results, 34 of 61 drums displayed the notation 'DOW'.
 - ② Dioxins were detected in all 61 drums, from 25-1900pg-TEQ/g with an average of 300pg-TEQ/g.
 - ③ 20 samples had PCB content of 0.5-6.0 mg/kg, with an average of 1.5 mg/kg.
 - ④ Pesticides (agricultural chemicals) such as 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid), 2,4-DCP (2,4-Dichlorophenol), 2,4,5-TCP (2,4,5-Trichlorophenol), PCP, sodium cacodylate and DDT were also detected in the qualitative test. 2,4-D (2,4-Dichlorophenoxyacetic acid), picloram, malathion, 2,4-D butyl ester and 2,4,5-T butyl ester were not detected.
 - ⑤ The arsenic and fluoride content exceeded the standard guideline value (39mg/kg) of the natural origin sample.
 - ⑥ Oil in the range from 100-280,000mg/kg was detected and is considered to be primarily diesel fuel.
 - (2) The Bottom Drum Soil:
 - ① Dioxins were detected in all 29 samples from 14-680pg-TEQ/g with an average of 150pg-TEQ/g. All are below environmental quality standards for soil as they are below 1000pg-TEQ/g.
 - ② 5 samples had a PCB content of 0.5-1.6mg/kg where the average was 1.0mg/kg.
 - ③ As for agricultural chemicals (pesticides), 2,4,5-T and 2,4,5-TCP, PCP, cacodylic acid and sodium cacodylate were detected in the deposit and DDT's were detected in the qualitative test. 2,4-D (2,4-Dichlorophenoxyacetic), picloram, malathion, 2,4-D butyl esters and 2,4,5-T butyl esters were not detected.

I certify that the foregoing is a correct translation.

Translator's signature: *David Vincent Higgins*

Translator's Name: David Vincent Higgins

Date: July 30th, 2014



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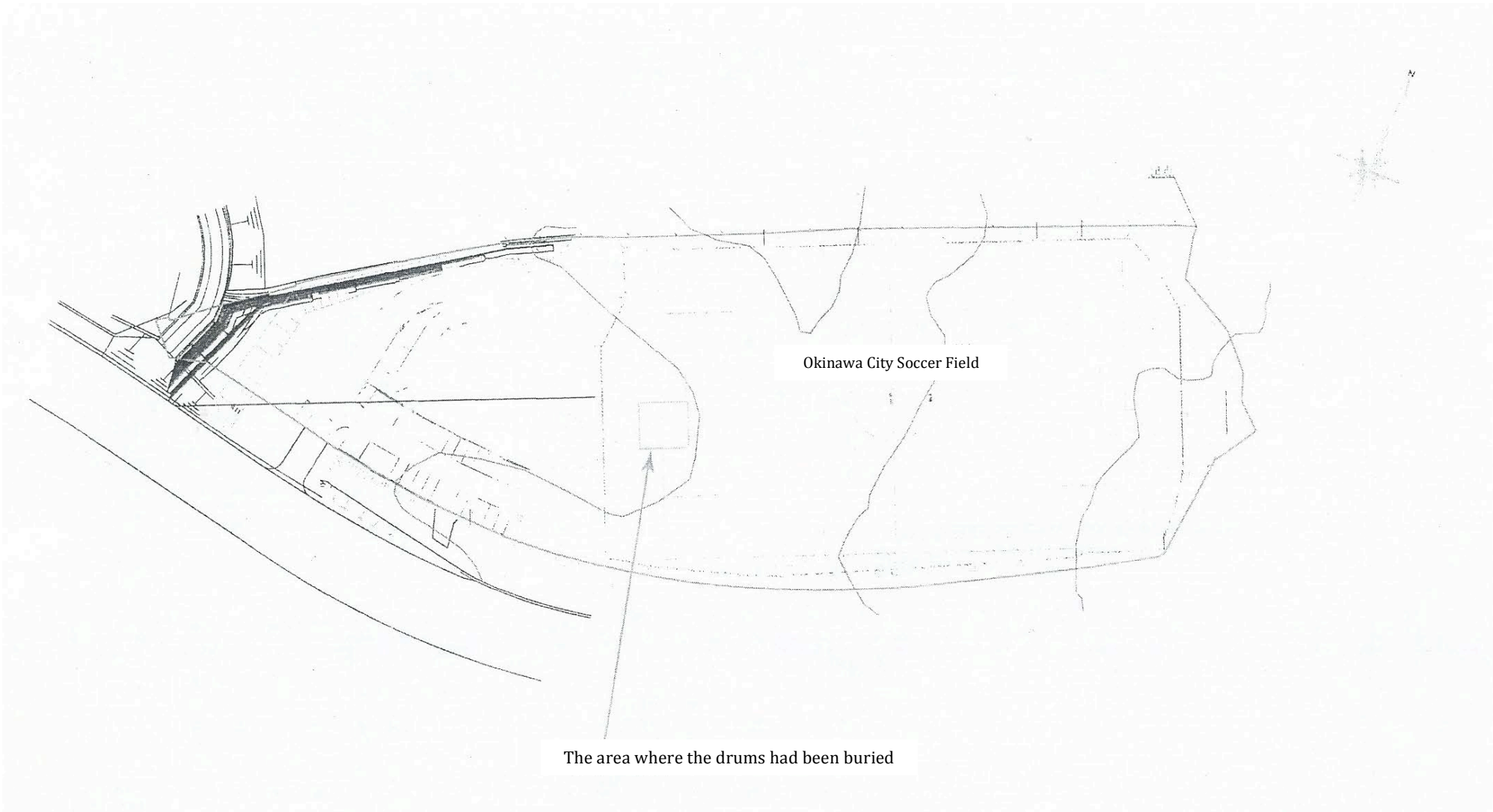


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- ④ The content of arsenic (39mg/kg) and fluoride (700mg/kg) was less than the standard value of the natural origin.
 - ⑤ There is detection of what is considered to be light oil at a rate of 100 ~ 10,000mg/kg.
 - ⑥ As for the amount of soil elution, 4 samples contained arsenic, 14 samples had fluoride present and were over the initial listing requirements (arsenic 0.01mg/L and fluoride 0.8mg/L) of the Soil Pollution Control Measures Law. The soil content from all samples was below the Soil Pollution Control Measures Law standards, which are: arsenic 150mg/L and fluoride 4,000mg/L.
- (3) For Stagnant Water:
- ① Two samples were taken, one on January 30th and the other one on February 1st, the amount of suspended substances were 15mg/L and 350mg/L respectively.
 - ② The sample from February 1st detected dioxins, 190-pg-TEQ/L in unfiltered water and 64pg-TEQ/L in filtration.
 - ③ PCB was not detected.
 - ④ Pesticides were detected in the February 1st water samples 2,4-D, 2,4,5-T, 2,4-DCP, 2,4,5-TCP, and PCP.
- (4) For Surface Soil Information:
- ① A survey of the entire surface of the field was in compliance with the Soil Contamination Countermeasures Law, as for the amount of soil leaching; there was an excess of the initial listing requirements value (0.01mg/L) of arsenic content in two areas.
 - ② The soil gas and soil elution survey are both below the standard value.
- (5) An overall evaluation was performed after hearing from the third party specialist's opinions on the results.
- (6) The survey carried out in July of 2013 confirms the drum deposits, stagnant water and soil under the drums was contaminated and had traces of oil, dioxins, PCB and pesticides.
- (7) The origin of the dioxin contamination originated from agricultural pesticides, PCB, PCP and 2,4,5-T.
- (8) Since the last survey, 2,4,5-T, 2,4,5-TCP, 2,4-D, 2,4-DCP and PCP had increased, as well sodium cacodylate, cacodylic acid and DDT's were detected in the qualitative test.
- (9) As for the burial area of the drum deposits, there was complex contamination and caution was needed for the disposal and handling methods.
- (1 0) The drums were positioned poorly in the area leading to arsenic exceeding the specific reference value of surface soil.
- (1 1) To determine the extent of contamination for the bottom soil of the buried drum an in depth investigation is required.

Contact: Okinawa city office, Okinawa Citizens Department, Environmental Division:
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Okinawa City Soccer Field

The area where the drums had been buried

**Survey Analysis of the Abandoned Objects in Koza Sports Park
【Drum Observation Records】**

No.	Extraction Date	Size of Drum	Condition of Drum	Drum Odor	Condition of Deposits	Deposit Odor	Notation	Contents of Notation
	Time							
1	H26.1.28 10:25	(Height) 90cm x (Diameter) 56cm	High-density, rust and holes, black and brown paint	0	Rust	2 Sulfide odor		No notation.
2	H26.1.28 13:10	(Height) 90cm x (Diameter) 56cm	High-density, rust and holes, black and brown paint	0	Rust, soil	2 Sulfide odor		No notation.
3	H26.1.29 9:20	(Height) 90cm x (Diameter) 56cm	High-density, rust and holes, black paint, attachment scarring	0	Rust, tar like substance, soil	4 Oil Odor	○	The white notation 「TON A · 」 「..2... ..ARPF」 「O · L..」 「TP」 「 · RY · 」 are on the middle of the drum.
4	H26.1.29 9:50	(Height) 90cm x (Diameter) 56cm	Cracked black paint	5 Oil Odor	Soil and rust	5 Oil Odor		No notation.
5	H26.1.29 10:35	(Height) 90cm x (Diameter) 56cm	Dents, rust and holes, black paint	0	Soil and rust	0		No notation.
6	H26.1.29 11:10	(Height) 90cm x (Diameter) 56cm	Dents, rust and holes, black paint	0	Soil, rust and mud	0		No notation.
7	H26.1.29 11:30	(Height) 90cm x (Diameter) 56cm	Dents, rust and holes, black and red paint	4 Oil Odor	Soil, rust and stone	4 Oil Odor	○	The white notation 「KE · · 」 「 · ANDS · OFF」 are on the middle of the drum.
8	H26.1.29 13:10	(Height) 90cm x (Diameter) 50cm	Dents, rust, holes and deformation, black paint	5 Oil Odor	Soil, rust and mud	5 Oil Odor		No notation.
9	H26.1.29 13:37	(Height) 80cm× (Diameter) 56cm	Dents, rust and holes, black paint	3 Sulfide odor	Soil · Small amount of rust	0		No notation.
10	H26.1.29 13:55	(Height) 90cm× (Diameter) 58cm	Small dents and holes, black paint	5 Oil Odor	Mud (tar?)	5 Oil Odor		No notation.
11	H26.1.29 16:02	(Height) 90cm x (Diameter) 56cm	Dents, rust and holes, black paint	1 Oil Odor	Peeling paint	4 Oil Odor		No notation.
12	H26.1.29 16:47	(Height) 80cm× (Diameter) 63cm	Dents, rust, crushed areas, black paint	2 Oil Odor	Mud	3 Oil Odor		No notation.
13	H26.1.30 8:35	(Height) 90cm× (Diameter) 58cm	Rust, dents, two open spouts, painted all black with several places of red paint as well.	2 Oil Odor	-	1 Sulfide odor	○	The handwritten red notation 「57%」 「is on the side and top of the drum. More handwritten red notation of 「57%」 「malath」 「 · ag」 is on the middle of the side of the drum. The next notation is engraved 「USS」 「100..E」 「STC」 on the bottom of the drum. (※The English notation of malat means Malathion)
14	H26.1.30 9:41	(Height) 90cm× (Diameter) 58cm	Rust, dents, two open spouts, painted all black with several places of red paint as well.	2 Oil Odor	Rust	0	○	The notation 「USS」 「18 55」 「STC」 is engraved on top of the drum.
15	H26.1.30 10:51	(Height) 88cm× (Diameter) 58cm	Rust, dents, two open spouts, painted all black with several places of red paint as well.	2 Oil Odor	Mud and rust	0		No notation.
16	H26.1.30 13:00	(Height) 88cm× (Diameter) 59cm	Holes, cracks, dents, rust, red and black paint	3 Oil Odor	Viscous substance (black, reddish brown and a pale blue gray in color)	4 Oil Odor		No notation.
17	H26.1.30 13:50	(Height) 81cm× (Diameter) 59cm	Holes, rust, dents and black paint	3 Oil Odor	Viscous substance (black and pale green in color)	4 Oil Odor		No notation.
18	H26.1.30 14:15	(Height) 80cm× (Diameter) 58cm	Holes, rust, dents and black paint	3 Oil Odor	Viscous substance (yellow and gray in color)	3 Oil Odor		No notation.
19	H26.1.30 15:10	(Height) 76cm× (Diameter) 50cm	Dents and small holes, black and white paint	4 Oil Odor	Rust	4 Oil Odor	●	The notation 「DO · 」 is on a white belt on the side near the top 、 the black notation 「10-135」 is on a white belt near the bottom . The white notation 「 · · 0 · · 」 is also on the bottom.

**Research Analysis of Abandoned Objects in Koza Athletic Park
[Drum Observation Record]**

No.	Date of Collection Time	Size of Drum	Condition of Drum	Drum Odor	Condition of Deposit	Deposit Odor	Notation	Notices
20	H26.1.30 15:55	(Height) 81cm × (Diameter) 60cm	Rust, holes, dents and the bottom is cracked	3 Oil Odor	Mud (brown, pale yellow and green color)	3 Oil Odor		No notation.
21	H26.1.30 16:15	(Height) 90cm × (Diameter) 59cm	Rust, holes, black paint	4 Oil Odor	Rust, mud	4 Oil Odor		No notation.
22	H26.1.30 16:35	(Height) 83cm × (Diameter) 58cm	Rust, dents, black and red paint	3 Oil Odor	-	0		No notation.
23	H26.1.31 8:38	(Height) 73cm × (Diameter) 48cm	Rust, dents, holes, the upper lid is a DOW plastic lid	2 Oil Odor	Rust, mud	1 Oil Odor	●	There is a DOW logo on the upper surface. There's a white notation on a white belt with hexagons that reads 「DOW」 on another white belt in black writing it reads「135」 on the upper part of the side. On the lower side it reads「GAL·」 「DOW ··EMICA」 「·D M··HIGA」in white.
24	H26.1.31 9:16	(Height) 62cm × (Diameter) 58cm	Holes, dents, black paint, plastic lid	1 Oil Odor	Rust, mud	1 Oil Odor	●	There is a white belt with white notations and hexagons that reads 「D··」 on the upper part of the side, the white notation of the lower part is difficult to decipher/read.
25	H26.1.31 9:45	(Height) 75cm × (Diameter) 47cm	Holes, dents, black and red paint	0	Rust, mud (green/gray color)	0	●	There is a white belt with white notations and hexagons that reads 「DOW」 on the upper part of the side. There is a white notation with some red paint that reads 「10390 01」 「IC··35」 「·OW」 「·DL·」 on the lower part of the side.
26	H26.1.31 10:19	(Height) 74cm × (Diameter) 48cm	Rust, dents, black paint	0	Mud (gray)	0	●	There is a white notation on a white belt with hexagons on the upper side that reads 「DOW」 .On the lower side there's a white notation that reads「GALLONS」 「···RO··」
27	H26.1.31 11:06	(Height) 75cm × (Diameter) 48cm	Rust, holes, black paint	2 Oil Odor	Rust and gray in color	1 Oil Odor	●	There is a white belt on the upper part of the side that reads「30 GAL··NS/··5··S」 On the lower side a white notation that reads「··E HEM·A· COMPANY」 「··N 43··」
28	H26.1.31 13:11	(Height) 73cm × (Diameter) 46cm	Rust, dents, black paint	2 Oil Odor	Rust, mud	3 Oil Odor	●	On the lid of the upper surface is the logo「DOW」On the upper part of the side there is a white belt with hexagons and white notation that reads「·OW」and「10390 01」On the lower part of the side there is a white notation that reads「13··」 「··MICAL··」
29	H26.1.31 13:43	(Height) 74cm × (Diameter) 48cm	Rust, dents, black paint	3 Oil Odor	Rust, mud	3 Oil Odor	●	On the lid of the upper surface is the logo「DOW」 On the upper part of the side there is a white belt with white notations that reads「··CALLO·S ·135 LEFR·」 「····· COM··」 「·C··N 48·40」
30	H26.1.31 14:05	(Height) 90cm × (Diameter) 58cm	Rust, holes, small amount of dents, hexagon cap, unknown color	2 Oil Odor	Rust, soil	3 Oil Odor		No notation.
31	H26.1.31 14:30	(Height) 73cm × (Diameter) 47cm	Small amount of holes, rust, black paint, overall good condition	2 Oil Odor	Rust, soil, mud	4 Oil Odor	●	There is a white belt with white notations and hexagons that reads「DOW」and 「10390」 on the upper part of the side. On the lower part of the side there is a white notation that reads 「····/13.5 LITRO·」 「THE·····CAL COMPANY」 「·····N·8·40」
32	H26.1.31 15:34	(Height) 57cm × (Diameter) 48cm	Rust, holes, black paint, overall terrible condition	2 Oil Odor	Mud	4 Oil Odor	●	There is a white notation that reads「·····113.5 LITROS」 「·····CAL COMPANY」 「····48640」on the lower part of the side.
33	H26.1.31 15:51	(Height) 73cm × (Diameter) 47cm	Small amount of holes, rust, black paint, overall good condition	1 Oil Odor	Mud	3 Oil Odor	●	There is a white belt with white notations and hexagons that reads 「DOW」 on the upper part of the side. On the lower part of the side there is a white notation that reads 「10··O··」 「IC·」 「3··A··O·S/113.5··ROS」 「···W C··MI··」 「··DLAND M··」
34	H26.1.31 16:21	(Height) 73cm × (Diameter) 47cm	Small amount of dents, rust, black paint	2 Oil Odor	Rust, mud	5 Oil Odor	●	There is a white belt with black notations that reads「35」on the upper part of the side. On the lower part of the side in white it reads「30 GA····」 「TH··OW」
35	H26.2.1 9:00	(Height) 74cm × (Diameter) 46cm	Cylindrical hole, black paint	0	Mud, black ash	4 Oil and Chemical odor	●	There is a white belt on the upper part of the side and on the lower part with white notations that reads「30 GALLONS··」 「THE DOW CHEMICAL」 「MIDLAND MICHIGAN」
36	H26.2.1 9:30	(Height) 74cm × (Diameter) 44cm	Partially collapsed, holes, red and black paint	0	Mud	4 Oil and Chemical odor		No notation.
37	H26.2.1 9:50	(Height) 74cm × (Diameter) 44cm	Oil residue/film, black paint	4 Oil and Chemical odor	Mud (black and gray color)	4 Oil and Chemical odor	●	There is a white belt with hexagons and white notations that reads「·OW」

**Research Analysis of Abandoned Objects in Koza Athletic Park
[Drum Observation Record]**

No.	Extraction Date Time	Size of Drum	Condition of Drum	Drum Odor	Condition of Deposit	Deposit Odor	Notation	Contents of Notation
38	H26.2.1 10:10	(Height) 73cm × (Diameter) 34cm	Partially collapsed, oil film residue, black paint.	4 Oil and Chemical odor	Mud (black / olive-gray color)	4 Oil and Chemical odor	●	The top of the lid has the「DOW」logo, on the side there is a white diamond belt with the「DOW」notation.
39	H26.2.1 11:00	(Height) 90cm × (Diameter) 58cm	Dents, holes, hexagon cap, black paint.	1 Sulfide odor	Tar (Black)	1 Oil and Sulfide Odor		No notation.
40	H26.2.1 13:13	(Height) 90cm × (Diameter) 56cm	Dents, cracks, black paint.	1 Chemical odor	Mud	1 Oil and Chemical odor		No notation.
41	H26.2.1 13:30	(Height) 90cm × (Diameter) 57cm	Small dents, rust, close to the original black paint.	3 Oil odor	Mud	4 Oil Odor	○	On the upper surface there is a label that reads「3712」and there is a handwritten upside down notation that reads「CILE」in red. 「STC」is stamped on the bottom.
42	H26.2.1 13:58	(Height) 74cm × (Diameter) 47cm	Large dents, one hole, black paint.	1 Sulfide and Chemical odor	Sand, Mud	1 Sulfide and chemical odor	●	There is a white notation on the white belt that reads「DOW」on the upper side. On the lower side it reads「30 GA」 「THE DOW」 「MIDLAND」 in white.
43	H26.2.1 14:37	(Height) 70cm × (Diameter) 48cm	Lots of dents, rust, cracks, red and black paint.	0	Rust, Mud	1 Sulfide Odor	●	There is a white notation on the white belt that reads「DO」on the upper side. On the lower side it reads「30 GALLON 11」 「THE DOW CH·M」 「MIDLAND」 in white.
44	H26.2.1 15:21	(Height) 72cm × (Diameter) 49cm	Partially collapsed, black paint.	0	Mud	1 Sulfide and Chemical odor	●	There is a white notation on the white belt that reads「·OW」on the upper side. On the lower side it reads「·TROS」in white.
45	H26.2.1 15:46	(Height) 74cm × (Diameter) 48cm	Dents, rust, black paint.	0	Rust, mud, sand, gravel	1 Oil and Chemical odor	●	There is a white notation on the white belt that reads「D」on the upper side. On the lower side it reads 「·OMPA」 in white.
46	H26.2.1 16:18	(Height) 90cm × (Diameter) 57cm	Cracks, rust, hexagon cap, black paint.	4 Oil Odor	Rust, sand, gravel	4 Oil Odor		No notation.
47	H26.2.3 8:40	(Height) 74cm × (Diameter) 43cm	Cylindrical shaped hole, hexagon cap, black paint.	4 Chemical odor	Sand	4 Chemical Odor	●	There is a 「DOW」logo on the upper surface of the lid. There's a white belt on the upper part of the side. On the bottom there's the white notation 「30 GALLONS/113」 「THE DOW CHEMIC」 「MIDLAND, MICH」
48	H26.2.3 9:10	(Height) 73cm × (Diameter) 41cm	A hole, black paint.	0	Sand, gravel	0	●	The white notation on the upper part of the side is hard to decipher/read, the black notation on the white belt reads「·C-13」
49	H26.2.3 9:40	(Height) 76cm × (Diameter) 47cm	Cylindrical shaped small hole, black paint.	4 Chemical odor	Rust	4 Chemical Odor	●	The upper part of the side has a white belt that has the white notation「390」 On the lower part of the side there's another white notation that reads「·/·13.5 LITROS」 「···L COMP·NY」 「AN 48640」
50	H26.2.3 10:10	(Height) 75cm × (Diameter) 44cm	Small dents and holes.	0	Rust	0	●	There is a white belt on the upper part of the side that has the white notation 「·LIT·OS」and on the lower side it reads「·MPAN」 in yellow.
51	H26.2.3 11:00	(Height) 69cm × (Diameter) 45cm	Crushed top with black paint and a red base.	4 Chemical odor	Rust, sand, gravel	4 Chemical Odor	●	There is a「DOW」logo on the upper surface of the lid. The following are on the lower part of the side「30」 「LONS/113.5L·TROS」 「DOW CHEMICAL COMPANY」 「·DLAND, MICH」 「N 48640」in white.
52	H26.2.3 11:30	(Height) 74cm × (Diameter) 47cm	Slightly crushed, holes, black paint.	5 Chemical odor	Tar-like material, rust, oil residue/film	5 Chemical Odor	●	There is a「DOW」logo on the surface of the upper lid. There is also the notation 「DOW」on the white belt on the upper side. The lower side has「E LI·ROS」 「·EMIC·L C·MPA」 「·MI·HIGAN」 notation in white.
53	H26.2.3 13:20	(Height) 74cm × (Diameter) 46cm	Dents, holes, black paint.	3 Chemical odor	Small amount of rust	3 Chemical Odor	●	There is a white notation on a belt with the「DOW」notation, the upper part reads 「10390·7-3」The lower part reads「30 GA」 「ONS/113.5」 「HE DOW」 「ICAL」 in white.
54	H26.2.3 13:50	(Height) 74cm × (Diameter) 46cm	Dents, holes, black paint.	3 Chemical odor	Rust, mud, sand, gravel	3 Chemical Odor	●	There is a white diamond belt with the notation「DOW」on the top of the side, there's a white notation on the upper part of the side that reads「10390」On the lower side it reads 「·ONS/113.5 ·ITRO」 「DOW CHEMICAL COMPANY」 「AND MICHIGAN 4864」
55	H26.2.3 14:30	(Height) 74cm × (Diameter) 46cm	Dents, holes, rust, black paint.	0	Rust, mud, oil residue/film, sand, gravel	3 Chemical Odor	●	On the top of the side, there is a black notation on a white belt with「IC-135」notation.

**Research Analysis of Abandoned Objects in Koza Athletic Park
[Drum Observation Record]**

No.	Extraction Date	Size of Drum	Condition of Drum	Drum Odor	Condition of Deposit	Deposit Odor	Notation	Contents of Notation
	Time							
56	H26.2.3 15:10	(Height) 89cm × (Diameter) 57cm	Cylindrical holes, dents, black paint	0	-	4 Chemical Odor	●	White notation on the upper part of the side that reads「IC-135」.
57	H26.2.3 15:50	(Height) 74cm × (Diameter) 46cm	Cylindrical holes, black paint	0	Rust	4 Chemical Odor	●	There is a white notation on a white belt with hexagons that reads「DOW」on the upper part of the side. On the lower part of the side a white notation reads「0 GALLONS 3.0 L」 「THE DOW CHEMICAL COMPANY」 「N. CHIGAN 486」.
58	H26.2.3 16:20	(Height) 74cm × (Diameter) 41cm	Small dents, holes, black paint	0	-	4 Chemical Odor	●	There is a white notation on a white belt with hexagons that reads「DOW」and「10390」on the upper part of the side. On the lower part of the side there is a white notation that reads 「30 GALLONS/113.5 LITROS」 「THE DOW CHEMICAL COMPANY」 「MIDLAND, MICHIGAN 48640」. There is also a white notation near the top that reads「IC-135」.
59	H26.2.4 8:37	(Height) 74cm × (Diameter) 47cm	A few holes, dents, rust around two open areas, black paint	0	Rust, Stone	3 Chemical and sulfide odor	●	It is hard to decipher/read, but there is a white belt with hexagons and a black notation that reads 「IC-135」on the upper part of the side. On the lower part of the side there is a white notation that reads 「30 GALLONS」 「THE CHEMICAL COMPANY」 「MIDLAND」.
60	H26.2.4 9:08	(Height) 73cm × (Diameter) 47cm	Dust, rust around two circular open areas, black paint	2 Chemical Odor	Small amount of rust	2 Chemical Odor	●	There is a white belt with hexagons and a white notation that reads「DOW」on the upper part of the side as well as the logo on the lid. There is a black notation on a white belt that reads「IC-35」 on the lower part of the side. There is a white notation also on the lower part of the side that reads 「30 GALLONS/113.5 LITROS」 「THE DOW CHEMICAL COMPANY」 「MIDLAND, MICHIGAN 48640」.
61	H26.2.4 9:40	(Height) 73cm × (Diameter) 47cm	Small amount of holes, dents, rust around two open areas, black paint	2 Chemical Odor	Small amount of rust	3 Chemical Odor	●	There is the「DOW」logo on the upper surface of the lid and a stamp/engraving that reads 「AMERICAN FLANGL」and「NEW YORK, U.S.A PAT3122261」on the upper part of the side. There is a white belt with hexagons and white notation that reads「DOW」 「390 017」The white notation is difficult to decipher/read.

※The intensity of the drum oil odor is rated in intensity from 0-5 in 6 stages where '0' is odorless, '1' you can just barely smell it and '2' means there is a weak smell present, '3' is perceived to be a slightly stronger smell, 4 and 5 both indicate a very strong odor/smell.

※The black circle in the notation section "●" means that there is a notation of 「DOW」 or something very similar. The white circle "○" indicates there is some kind of notation present.

※The following symbol "・" indicates that the notation section and characters in it are difficult to read.

The symbol "1" means that there are other characters such as "l" that have a similar look to the others but are also hard to read.

Chapter 3 Evaluation Summary and Survey Results

3.1 Summary of the Results

The following table describes the pollution caused by hazardous materials and dioxins identified in this investigation.

Table 3.1.1 Analysis Results Summary

Subject of Survey Survey Item	Drum Deposit	Bottom Soil	Stagnant Water	Soil gas and surface soil (The entire soccer field)
Dioxins	All sample detection 25~1900 pg-TEQ/g	All sample detection 14~680 pg-TEQ/g	Detection (filtered liquid) 64 (stagnant liquid) 190pg- TEQ/L	—
PCB	20 Detected in the sample 0.5~6.0mg/kg	5 Detected in the sample 0.5~1.6mg/kg	Not detectable	—
Pesticides (2,4-D 2,4,5-T etc.)	Chlorophenols and phenoxy acetic acid in large numbers	Chlorophenols and phenoxy acetic acid in large numbers	2,4-D detected. In addition chlorophenols and phenoxy acetic acid in large numbers	—
Pesticides Qualitative Test	Reaction to DDT	Reaction to DDT	Reaction to alkyl benzenes	—
Arsenic Speciation	Detection of cacodylic acids	Detection of cacodylic acids	Not detected	—
Oil	Detected in large numbers	Detected in large numbers	Detected	—
Arsenic (content)	11~56mg/kg was detected in all samples	15~27mg/kg was detected in all samples	—	—
Fluorine (content)	67~470mg/kg was detected in all samples	57~180mg/kg was detected in all samples	—	—
VOC (Amount of soil elution · leaching)	—	Elution volume not detected	—	Soil gas not detected
Soil Elution Volume Adjustment	—	Standard excess of arsenic and fluorine	—	Standard excess of arsenic
Soil Content Control	—	No problems	—	No problems

From the information above, the bottom soil and stagnant water (bank water), which are located in the drum deposits and directly under them are polluted/contaminated, a suitable disposal method is required when unearthing them from underground.

3.2 Evaluation Summary

In conjunction with the previous survey results conducted in July 2013, 83 drums had been buried beneath the Okinawa City soccer field. From the bottom soil deposit analysis and the dioxin results found it to be contaminated with 2,4,5-T from pesticides, oil and PCB.

The origin of the detected dioxins can be classified into 2,4,5-T, 2,4-DCP, 2,4,5-DCP, PCP and PCB and some that have been compounded. As a result of increasing the entry of pesticides in the analysis, 2,4-D, 2,4-DCP, 2,4,5-TCP, PCP, cacodylic acid and cacodylic sodium have been newly detected.

Although the burial time is thought to be decades ago, due to volatilization, the degradation effects are small for refractory material from residual pollution.

Some of the drum deposit samples display a higher concentration of dioxins, similar to previous findings of PCB, cacodylic acid and sodium cacodylate which were also present. These types of agricultural chemicals (pesticides) are not presently being used, this is considered compound pollution and caution is required when handling the disposal method of them.

Arsenic was detected from the analysis and it exceeded the standard of the surface soil of the entire soccer field/stadium. However it is quite distant from the drum burial position according to the Soil Pollution Control Measures Law and its relevance is scarce.

From the analysis of the stagnant water (bank water) dissolution test, there was no detection of PCB and pollution contamination spreading to surrounding areas seems unlikely.

However there is a possibility that contamination by toxic substances that were detected, besides PCB may have been spread/diffused into the soil under the buried drums so further investigation of the contamination range of soil is required for an in depth look into the soil.